

Council of the County Palatine of Durham.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

T. EUSTACE HILL, M.B., B.Sc., F.I.C.,

INCLUDING A

SUMMARY OF THE ANNUAL REPORTS OF THE

DISTRICT MEDICAL OFFICERS OF HEALTH,

AND OTHER RECORDS,

FOR THE YEAR

1906.

Durham :

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1907.

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THE COUNCIL OF THE COUNTY PALATINE OF DURHAM.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH
COMMITTEE.

GENTLEMEN,

I regret that the issue of this my Sixteenth Annual Report has been so long delayed, but illness and subsequent pressure of work prevented me from completing it till late in the year.

The year under notice was one of prosperity in the county, and it is highly probable that the population is now considerably greater than the official estimate.

As regards the county vital statistics, it will be seen that the birth-rate maintained a high level, though the birth-rate for England and Wales continues to decline in an alarming degree, that the total death-rate is below the average of previous years, and that there is a further small diminution in the infant mortality-rate. This is all the more satisfactory seeing that the climatic conditions experienced were not favourable, but unfortunately our infant death-rate is still excessively high, and much of it is undoubtedly preventible.

My relations with the district sanitary officials continue to be most satisfactory, and I wish to express my obligations to them for the assistance they have always so kindly given to me. I also desire to thank your Committee for your kindness and consideration to me during my recent illness, and at all other times.

I am,

Mr. Chairman and Gentlemen,

Your obedient Servant,

T. EUSTACE HILL.

20th December, 1907.

THE ADMINISTRATIVE COUNTY.

Area.

There has been no change in the area of the county, which stands at 637,672 acres, and the area of the individual sanitary districts remains the same as in 1905, though an unsuccessful application was made to the County Council towards the end of the year for the extension of the boundaries of the Stanley urban district by the inclusion of a portion of the area of the Lanchester rural district.

Number of
sanitary
districts.

The administrative county contains 5 boroughs, 24 urban districts, 14 rural districts, and 2 port sanitary districts.

Changes in
sanitary
staff.

The only changes among the district medical officers of health were the appointment of Dr. Morrison for the Blaydon urban district vice Dr. Brown, and of Dr. Neligan for the whole of the Barnard Castle rural district in accordance with the recommendation of the Local Government Board that one medical officer of health instead of three, as formerly, should be appointed for the whole district.

The only change among the inspectors of nuisances was in Darlington borough.

Printing of
annual
reports.

The whole of the district annual health reports were printed, with the single exception of that for Leadgate, and it is with satisfaction that I record the fact that the Houghton-le-Spring Rural District Council for the first time caused the reports of their medical officers of health to be printed.

Population.

Increase of
population.

The population of the administrative county at mid-year 1906 was estimated at 822,160, which exceeds the estimate of the previous year by 10,600. On the other hand, the natural increase in the population, *i.e.* the difference between the number of registered births and deaths, was 14,546. The estimated population of the urban districts of the county was 473,522, of which 175,492 belong to the 5 non-county boroughs, while the estimated population of the rural districts was 348,638. Owing to the prosperity of the coal trade and the

opening out of a number of new collieries, it is highly probable that the population of the county given above, and which is based on the rate of increase between the censuses of 1891 and 1901, is considerably under-estimated, and according to the estimates of the district medical officers of health the population of the county was at mid-year 1906 856,480, which exceeds by over 33,000 the official estimate, the greater part of this excess (over 26,000) being allocated to the rural districts. The large number of new dwellings erected in many parts of the county without apparently in any way reducing the very serious overcrowding on which I have so often commented is also strong evidence of an abnormal increase in the population.

Estimate
too low.

Births.

The births registered during 1906 numbered 29,007, equal to a birth-rate of 35·2 per 1,000 population, as compared with 27,977 births and a rate of 34·4 for 1905. In my last annual report I had to draw attention to a considerable decline in the birth-rate, and it is satisfactory to note that it has returned to its high level and shows no tendency to follow the persistent and serious fall in the birth-rate throughout the country generally. It is to be noted, however, that in the five non-county boroughs the birth-rate was only 31·5 per 1,000, while in the other urban districts it was 35·9, and in the rural districts it reached the high rate of 36·5. In the districts of Southwick-on-Wear and Stanley the birth-rate exceeded 40 per 1,000, while in all the agricultural portions of the county it was considerably below 30 per 1,000.

District
birth-rates.

Deaths.

The total number of deaths registered during the year was 14,459, an increase of 393 as compared with the previous year, while the death-rate per 1,000 population rose from 17·4 to 17·5. Considering the high mortality from diarrhœal diseases during the third quarter of the year the total death-rate cannot be regarded as unsatisfactory, as it is below the county average, but it was nevertheless 2·1 per 1,000 above the total death-rate for England and Wales.

Death-rates,
1902-6.

The following table compares the death-rates for the county and for its urban and rural districts during the past five years with those for England and Wales :—

	1902	1903	1904	1905	1906
England and Wales ..	16·3	15·4	16·2	15·2	15·4
Administrative County ..	16·7	17·7	18·3	17·4	17·5
Urban Districts ..	16·8	17·7	18·5	17·2	17·3
Rural Districts ..	16·4	17·8	18·1	17·7	17·9

As regards the total death-rate in the different quarters of the year, it is to be noted that in none of them was it excessive, the highest being 18·1 in the third and the lowest 16·2 in the second quarter.

District
death-rates

The highest death-rates per 1,000 population recorded in the individual sanitary districts were 20·8 in Shildon and 20·4 in Houghton-le-Spring, while in the rural districts the highest rates were in Sedgfield (19·5) and Easington (18·8).

The lowest recorded rates were in Ryton (12·6) and Tanfield (13·6), and in the rural district of Hartlepool (13·1).

The death-rate in the rural districts (17·9) considerably exceeded that for the urban districts (17·3).

Uncertified
deaths.

The percentage of uncertified deaths was 3·1, which is twice as high as that for England and Wales (1·5). The deaths uncertified in consequence of the attendance of unqualified medical practitioners were 72, and 49 of them were in the Spennymoor urban district.

Infant Mortality.

Reduced
mortality.

The deaths of infants under one year of age numbered 4,583, equal to an infant mortality-rate of 157 per 1,000 births registered. In the two immediately preceding years the infant mortality-rate was 159 and 162.

Although the county infant mortality-rate has shown a tendency of recent years to progressively decline it still very

greatly exceeds the rate for England and Wales, which in 1906 was only 133. As has been invariably the case in previous years, the infant mortality in the non-county boroughs (140) was considerably less than in either the other urban districts (160) or the rural districts (163).

The mortality among infants was especially high during the third quarter of the year (204) when epidemic diarrhœa was extremely fatal, while in the preceding quarter the rate was only 121.

The districts with the highest infant mortality-rates were Brandon (197), Shildon (190) and the rural district of Sedgfield (198), while on the other hand the rate was as low as 46 at Stanhope and 92 at Barnard Castle.

I have so frequently referred to the causes of the persistently high infant death-rate in this county that it is unnecessary to again discuss them in this report, more especially as a report by me to the County Health Committee dealing fully with the question has been recently published and copies sent to every district authority, but it is obvious that the chief causes are the gross overcrowding of dwellings which exists, insanitary surroundings, artificial feeding, and the ignorance of the parents.

Causes of
high infant
mortality.

Zymotic Diseases.

The diseases usually included under this heading are small-pox, scarlet fever, diphtheria and membranous croup, fevers (enteric and continued, &c.), measles, whooping cough, and diarrhœa, and during 1906 the deaths attributed to them numbered 1,974, equal to a death-rate of 2·40 per 1,000 population, which was slightly in excess of the rate for 1905 (2·37) and much higher than that for England and Wales (1·73).

As was the case with the total and infant death-rates, the zymotic death-rate for the non-county boroughs was considerably less than in either the urban or the rural districts. There was a marked difference in the zymotic death-rate during the different quarters, the figures varying from 1·03

in the second quarter to 4·61 in the third quarter of the year, when diarrhœa was exceptionally fatal.

District
death-rates.

The districts with the highest zymotic death-rates were Shildon (5·1), Southwick (4·9), and Hetton (4·3), and Sedgefield rural (3·9), while on the other hand the rate in the Stanhope urban district was only 0·5 per 1,000.

Comparison
with 1905.

In comparison with 1905 there was an increase in the mortality-rate from diarrhœa and enteric fever, while on the other hand there was a decrease in the rates from scarlet fever, diphtheria, measles, and whooping cough.

Chief vital
statistics.

In the following table the chief vital statistics of the administrative county during 1906, and of its urban and rural districts are compared with those of England and Wales :—

1906.	Urban Districts.	Rural Districts.	Administrative County.	England and Wales.
Birth-rate	34·3	36·5	35·2	27·0
Death-rate	17·3	17·9	17·5	15·4
Zymotic death-rate ..	2·34	2·47	2·40	1·73
Infant Mortality-rate ..	153	163	157	133
Small-pox	Nil.	Nil.	Nil.	0·00
Scarlet Fever	0·06	0·10	0·08	0·10
Diphtheria and Mem- branous Croup ..	0·19	0·21	0·20	0·17
“ Fever ” (Enteric and Continued) ..	0·21	0·24	0·22	0·09
Measles	0·21	0·10	0·16	0·27
Whooping Cough ..	0·27	0·33	0·30	0·23
Diarrhœa	1·37	1·47	1·41	0·87

Small-pox.

There was no serious prevalence of small-pox in the county during 1906, and only 8 cases were notified, as compared with 136 in the previous year and 421 in 1904. Five of the 8 cases reported during the year were notified from port sanitary districts, into which the disease had been imported from abroad, while of the remaining cases 2 occurred in Blaydon in May and the other in Barnard Castle in November. At the end of 1906 there was no serious prevalence of small-pox in any part of England and Wales.

Scarlet Fever.

The very satisfactory decline in the prevalence of scarlet fever, to which attention was drawn in my last annual report, was even more noticeable during 1906. The notified cases, which had fallen from 4,603 in 1904 to 3,348 in 1905, still further declined to 2,621, while the deaths also declined in number from 77 to 68. The death-rate from scarlet fever was lower for the county than for England and Wales, and in no district was the disease seriously epidemic during the year. The death-rate in the rural districts was, however, nearly twice as high as in the urban districts of the county. As is usually the case, the incidence of the disease was highest during the last quarter of the year, the largest number of cases occurring during the month of October. As regards individual districts, the attack-rate was highest in Felling, Hebburn, Blaydon and Ryton, and in the Easington and Weardale rural districts.

Reduced
prevalence
and
mortality.

Many of the district medical officers of health express the opinion that the disease was spread about in their districts by mild, unnotified cases, while some of them draw attention to the carelessness of parents in not properly isolating the cases. The very mildness of the disease is probably one of the chief causes of its persistence, for its fatality has so markedly decreased that it now inspires no dread in the majority of our working class population. It is satisfactory to note that in many districts a large proportion of the cases were

Causes of
spread.

Value of
hospital
treatment.

treated in hospital, for it is quite impossible to effectually isolate cases of scarlet fever, or, as a matter of fact, any cases of infectious disease, in a large proportion of the dwellings in the industrial districts of this county.

Diphtheria and Membranous Croup.

Decreased
prevalence.

The following table indicates that both the causes of and deaths from these diseases were considerably less than in any of the previous three years, but the death-rate per 1,000 population again exceeded the rate for England and Wales, which was 0·17.

Diphtheria.	Administrative County.				
	1902.	1903.	1904.	1905.	1906.
Cases notified ..	1146	1467	1400	1547	1298
Deaths registered ..	226	235	237	210	168
Death-rate per 1,000 population ..	0·26	0·29	0·29	0·25	0·20

Seasonal
prevalence.

The death-rate in the rural districts was somewhat higher than in the urban areas, but the difference is much less marked than in the previous year. These diseases were most prevalent during the first quarter of the year and during the first month of that quarter, the cases subsequently declining progressively to June. Their incidence was most marked in the Tanfield and Stanhope urban districts and in the Easington rural district, but though the cases were widely distributed diphtheria was not seriously epidemic in any particular district. The medical officer of health of Stanhope expresses the opinion that the spread of diphtheria in his district was partly the result of the impossibility of properly isolating the cases at home, there being no isolation hospitals available, while he also expresses the opinion that the excessive beating up of ailing school children to keep up school attendance averages was also in part responsible. The importance of isolation in

Causes of
spread.

hospital of diphtheria cases is pointed out by several of the district medical officers of health, and it is unfortunate that in many districts no attempt appears to be made to isolate them in hospital even where accommodation is available. In a number of districts diphtheria anti-toxin is now gratuitously supplied to medical practitioners on application to the medical officer of health, but the medical officer of health for Chester-le-Street regrets that this valuable remedy is not more generally employed by medical practitioners. It is also unfortunate that medical practitioners do not make more use of the facilities granted by the County Council for the bacteriological examination of specimens from suspected cases of the disease, while some medical men have apparently as yet not recognised the fact that the diphtheria bacillus may persist in the throat of a patient for many weeks after all symptoms of the disease have disappeared. It is certainly desirable that in the case of children who have suffered from diphtheria a bacteriological examination should be made of a swab from the throat after all symptoms have disappeared and before they are permitted to return to school. Respecting this matter the following circular was sent to medical practitioners in the county and to every medical officer of health :—

Bacterio-
logical
examina-
tions.

Period of
infectivity.

DURHAM COUNTY COUNCIL.

DIPHTHERIA.

The period during which Convalescents must be considered
Infectious, and therefore a danger to others.

Persons convalescent from diphtheria remain infectious so long as diphtheria bacilli are present in their throats. In spite of the fact that a patient may have recovered, and be, to all appearances, restored to good health, he may nevertheless be carrying the infecting agent in his throat or nose. Experiment has proved that diphtheria bacilli obtained from the throats of convalescents are fully virulent : hence convalescents harbouring the bacillus in their throats are a great source of danger to other people.

The examination of swabs during convalescence is the only means of positively determining whether or no a patient be free from infection.

As a rule the bacilli vanish within three or four weeks from the commencement of the illness, often sooner, but sometimes they persist for longer periods, and are occasionally found as late as two months or more after the onset of the disease. A time limit, after the lapse of which it may be considered safe to allow a patient to mix with others is, therefore, not only misleading but dangerous.

It is most desirable that no patient be declared free from infection until at least one bacteriological examination has failed to reveal the presence of the diphtheria bacillus, and it is hoped that medical men will adopt this principle to the fullest extent.

T. EUSTACE HILL,

Medical Officer of Health.

N.B.—Local application to the throat and nose must be discontinued for some days before the swab is taken, lest the presence of antiseptics interfere with the growth of organisms in culture.

June, 1906.

Cause of
diphtheria.

As to the cause of diphtheria, although some medical officers of health attribute cases in their districts to insanitary conditions, the general opinion is that its spread is mostly by direct infection at school and in the home. The medical officer of health of Durham suggests that the increased prevalence of diphtheria in that city may have been the result of the new sewerage system, and there is certainly some evidence that outbreaks of diphtheria have followed on the disturbance of the soil about dwellings during drainage operations, &c.

Value of
antitoxin
and hospital
treatment.

There can be no doubt that many of the deaths from diphtheria would be prevented if the cases were promptly removed to hospital and the patients at once treated with diphtheria anti-toxin, for, as I pointed out in my last annual report, the case mortality from diphtheria in hospitals, especially where diphtheria anti-toxin is systematically employed, is extremely low.

Typhus Fever.

Not a single case of this disease was notified during 1906 in the administrative county.

Enteric Fever.

Increased
prevalence,

This disease was more fatal and prevalent than in any year since 1901, there being an epidemic outburst during the months of September and October, when considerably more

than one-half of the total cases occurred. The total death-rate per 1,000 population was 0·22, which is more than twice as high as the rate for England and Wales, which was only 0·09. In the rural districts the rate was 0·24, that for the urban districts being 0·21.

The following table gives particulars of the incidence of, and mortality from, enteric fever during each month of the year :—

Monthly
incidence
of cases.

Enteric Fever in the Administrative County of Durham.

1906.	No. of Cases.	No. of Deaths.	Case Mortality per cent.	Death-rate per 1,000 Population per annum.
January	51	12	23·5	0·17
February	38	11	28·9	0·17
March .. .	48	10	20·8	0·14
April	24	9	37·5	0·13
May	22	4	18·1	0·05
June	38	4	10·5	0·05
July	47	5	10·6	0·07
August	58	3	5·1	0·04
September ..	340	32	9·4	0·47
October	278	60	21·5	0·85
November ..	91	24	26·3	0·35
December ..	55	13	23·6	0·18
1906 ..	1090	187	17·1	0·22

It will be noted that during the first half of the year there was no serious prevalence of the disease in any month, and four-fifths of the cases occurred during the last six months.

Cases and
deaths,
1902—6.

The next table gives the total number of cases of enteric fever, the total deaths, the case mortality and the death-rate during each of the last five years, and it will be noticed that there has been a rapid and progressive increase in the number of cases notified as well as in the mortality during the last four years. The fatal prevalence of the disease was especially marked in Shildon, Brandon, and in portions of the rural districts of Sedgefield, Auckland, Easington and Durham:—

Enteric Fever in the Administrative County of Durham.

Year.	No. of Cases.	No. of Deaths.	Case Mortality Per Cent.	Death-rate per 1000 Population.
1902.. ..	674	115	17·0	0·13
1903.. ..	550	95	17·2	0·12
1904.. ..	809	119	14·7	0·14
1905.. ..	1014	158	15·5	0·19
1906.. ..	1090	187	17·1	0·22

Causes.

A very sudden and serious epidemic of the disease occurred in September in the village of Coxhoe, situated partly in the rural district of Sedgefield and partly in that of Durham. The epidemic was clearly traced to the milk supply from a dairy farm which was dependent for its water on a grossly polluted and badly constructed shallow well. Several of the occupiers of the farm were also attacked with the disease. Another serious epidemic occurred at Shildon, and the sanitary circumstances of the area affected in that district were not satisfactory. There was evidence that some mild unrecognised cases of the disease occurred, and as a result specific pollution of conveniences, and probably of the drains and sewers, followed, the infection being further disseminated by dust and flies. In Brandon the prevalence of the disease was, as in former years, attributed to defects of drainage and insanitary conveniences, while at Hetton, where the outbreak was strictly

local, the spread of the disease was probably the result of the infection of the conveniences by the excreta of one or more unrecognised cases. In many districts where the disease was more or less prevalent insanitary conveniences, defects of drainage, and the dirty habits of the occupants of the houses infected are given as the causes of many of the cases, and the opinion appears to be increasingly held that flies are a potent agency in the spread of the disease. Except at Coxhoe, there was no direct evidence as to the milk and water supplies being to any extent responsible for the excessive prevalence of the disease during September and October, but the experience of 1906 afforded further proof that, given local insanitary conditions, a persistently high temperature during the summer months is followed by an excessive prevalence of enteric fever. In many of the reports attention is drawn to the fact that the disease is often spread by direct infection, and that careful nursing and the observance of proper precautions as to disinfection are of the greatest importance. For this purpose the services of properly trained nurses to attend on enteric fever patients of the working classes who are isolated at home are of the greatest value, as was found to be the case during the epidemic prevalence of the disease at Coxhoe, Brandon and Shildon.

Value of
trained
nursing.

Continued Fever.

This disease was less prevalent than in the previous year, only 70 cases being reported, as compared with 93 in 1905. More than one-half of the cases occurred in the Easington rural district, and the medical officer of health for that district points out that they did not coincide as regards their incidence with the cases of enteric fever, but occurred during the coldest weather among the young and poor. Only one fatal case occurred in the county, but as I have stated in previous reports, there is very little doubt that the majority of the cases are mild cases of enteric fever.

Reduced
prevalence.

Puerperal Fever.

The number of cases of this disease declined from 64 in 1905 to 36, while the number of deaths decreased from 43 to 31.

There was no special incidence of the disease in any particular month, and cases occurred during every month of the year. The mortality per 1,000 population was somewhat higher in the rural than in the urban districts. One case was known to have occurred in the practice of a midwife. More than one-fourth of the total number of deaths occurred in the rural districts of Auckland and Chester-le-Street.

Erysipelas.

This disease further declined both in prevalence and fatality, 746 cases with 23 deaths occurring, as compared with 889 cases and 28 deaths in 1905. From a sanitary standpoint a large proportion of the notified cases of this disease apparently have no significance.

Measles.

The mortality from this disease was exceptionally small, only 138 deaths occurring, which is less than one-half of the average number occurring in the county. The death-rate per 1,000 population was only 0·16, which is only a little more than one-half the rate for England and Wales (0·27). In none of the rural districts, except in the southern portion of Houghton-le-Spring rural district, was the disease at all prevalent during 1906, but in the urban districts of Brandon, Hetton, Jarrow, and Hartlepool the death-rate was rather high. Of the total deaths exactly 100 were in the urban districts, only 38 occurring in the rural districts. Owing to the diminished prevalence of the disease there was less dislocation than usual of the work of elementary education as the result of the closing of schools.

In the following table the deaths and death-rates from measles for the last five years are given :—

	ADMINISTRATIVE COUNTY.				
	1902.	1903.	1904.	1905.	1906.
Deaths from Measles	319	254	447	393	138
Death-rate from Measles per 1,000 population .. }	0·37	0·32	0·55	0·48	0·16

Low
mortality.

Distribu-
tion.

School
closure.

Deaths and
death-rates,
1902—6.

Whooping Cough.

This disease was the cause of 248 deaths, equal to a mortality-rate of 0·30 per 1,000 population, the rate in the rural districts being somewhat in excess of that for the rest of the county. For England and Wales the rate was 0·23 per 1,000. The disease was particularly fatal in Jarrow, Blaydon, Brandon, Southwick, Stanley and Whickham, and in several villages in the populous rural districts. The medical officer of health for Whickham states that the school authorities do not assist as much as they might in coping with this disease by excluding children from infected houses, and he states that many children with whooping cough are forced into school, as also are many more children from houses where cases exist. It is certainly most undesirable that children should be admitted to school from any houses where cases of such infectious diseases as scarlet fever, diphtheria, measles and whooping cough are being treated.

Want of co-operation of school authorities.

Diarrhœa.

This disease was exceptionally fatal, the extremely hot weather experienced during the latter part of the summer being especially favourable to its development, where insanitary conditions existed. The total number of deaths was 1,164, the numbers for the two immediately preceding years being 734 and 767, while the death-rate per 1,000 population was 1·41, which is very considerably higher than the rate for England and Wales (0·87). There were also 346 deaths from enteritis, many of which might be classified as diarrhœa deaths. The diarrhœa rate in the rural districts was somewhat higher than in the urban areas. By far the highest mortality from diarrhœa occurred during September (631 deaths), and no less than 1,001 deaths occurred during the months of August, September and October. The disease was prevalent in nearly all the populous areas, but its mortality was especially marked in Shildon, Southwick, Spennymoor, Annfield Plain, Brandon, Hebburn and Whickham, and in the rural districts of Auckland, Chester-le-Street and Sedgefield. As I have stated in

Excessive death-rate.

Seasonal prevalence.

Distribution.

Causes.

previous annual reports, the deciding factor as to the prevalence of summer diarrhœa is the climatic conditions prevailing during the summer months. Given a long period of warm weather, especially during the latter part of August and the early days of September, the ill-effects of improper feeding, bad housing, and the pollution of the soil and air about dwellings are certain to manifest themselves in a high diarrhœa death-rate, but when the summer months are cold and wet these predisposing causes do not exercise such a manifestly baneful influence on infant life. It is unfortunately a fact that however careful a mother may be it is impossible to ensure healthy infant life in many of the dwellings in our industrial districts, but there is nevertheless much maternal ignorance as to the feeding and management of infants which is largely responsible for our high infant death-rate, and which is capable of being prevented. I am satisfied that a great reduction in our present infant mortality could be effected by the agency of women health visitors, and by the teaching of domestic hygiene in the higher classes of our elementary schools.

Means of
reducing
mortality.

Infectious Diseases Notification Act.

Further
decrease in
notifications.

The following table gives the total number of notifications of infectious disease during each month of the year in the administrative county, and it is satisfactory to note that the figures, which had fallen from 8,242 in 1904 to 7,194 in 1905, still further declined to 5,869, the notifications of every infectious disease showing a marked decline with the single exception of enteric fever. The progressive decline in the prevalence of scarlet fever is especially satisfactory, the total number of cases of that disease notified during 1907 being only a little more than one-half of the number notified 5 years ago. As a matter of fact the total number of notified cases reported during 1907 was nearly 1,000 less than the number of cases of scarlet fever alone notified in 1901.

INFECTIOUS DISEASES NOTIFICATION ACT.

Statement of notifiable diseases reported during each month of 1906.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Totals.
Small-pox .. ..	..	..	1	1	3	..	..	1	1	..	1	..	8
Scarlet Fever	240	179	234	226	198	168	190	199	214	286	265	222	2621
Diphtheria	180	134	126	104	78	74	88	76	69	120	91	95	1235
Membranous Croup ..	8	3	6	7	7	5	3	4	2	3	8	7	63
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric or Typhoid Fever	51	38	48	24	22	38	47	58	340	278	91	55	1090
Relapsing Fever .. ..	..	..	.	..	..	..	..	..	..	..	..	..	..
Continued Fever	10	3	8	1	6	2	2	1	7	20	6	4	70
Puerperal Fever	5	1	8	5	4	2	1	1	2	2	1	4	36
Cholera .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	66	63	88	66	49	55	53	54	46	82	66	58	746
TOTALS	500	421	519	434	367	344	384	394	681	791	529	445	5869

Isolation Hospitals.

Districts
without
hospitals.

New
hospitals.

Extensions.

Hospital
accommo-
dation for
diphtheria
patients.

Disinfecting
apparatus.

Number
of cases
isolated.

Nothing was done during the year 1906 to provide isolation hospital accommodation for the Weardale Union, though in their annual reports the district medical officers of health strongly urge the necessity for such provision, especially as certain infectious diseases had been exceptionally prevalent in parts of the district. Every other sanitary district in the County is provided with some means of isolating cases of both ordinary infectious disease and small-pox, and in several districts considerable improvement was effected in the existing accommodation during 1906. A permanent hospital for the Barnard Castle rural district was erected near Barnard Castle, while the hospital for the Sunderland rural district was enlarged by the provision of a scarlet fever pavilion, discharge block and lodge. The hospital at Norman's Riding, formerly used for patients from the Blaydon urban district, was considerably enlarged to accommodate patients from the Joint Hospital District of Blaydon, Ryton and Whickham, and the work was in progress at the end of the year. At Chester-le-Street a commencement was made with the work of erecting permanent pavilions in place of the iron and wood buildings which hitherto were in use. Generally speaking the hospital accommodation provided in the County for cases of ordinary infectious disease is now satisfactory, but in some districts more use might be made of it. This is especially so in regard to cases of diphtheria, and during the year the County Council drew the attention of the district authorities to the desirability of isolating cases of diphtheria occurring in their districts. Most of the district hospitals are provided with a steam disinfecting apparatus, but in several cases this necessary adjunct is wanting. The total number of cases isolated in hospital during the year was 1,625, but in 1892, the year of my appointment, only 420 cases were so isolated.

Small-pox Hospitals.

During the year considerable progress was made with the work of providing adequate accommodation for small-pox cases in several districts, and in the course of a very short time

every sanitary district will be provided with fairly adequate means of isolating cases of this disease. During 1906 arrangements were made for the erection of a joint small-pox hospital for the Blaydon, Ryton and Whickham urban districts on an excellent site at Sealburns, in the Ryton urban district. The hospital was to be completed in the early part of 1907. A permanent small-pox hospital was erected near Thornley, in the Easington rural district, for the joint use of that district and the Sedgefield rural district, while towards the end of the year tenders were invited for the erection of a permanent joint hospital for the Hetton and Houghton-le-Spring urban district and the Houghton-le-Spring rural district. A small-pox hospital for the use of Chester-le-Street rural district was erected on a good site between Washington and Birtley, and at the end of the year was almost ready for occupation. During the year the County Council made an Order constituting the Durham rural district and the Brandon urban district a hospital district for small-pox purposes, and the Local Government Board, after holding a local enquiry, subsequently dismissed an appeal against the Order. The site for the small-pox hospital for the North-East Durham Joint Hospital District has yet to be obtained, and no progress was made during 1906 towards providing a hospital for that populous area.

New
small-pox
hospitals.

County
Council
Hospital
Orders.

Phthisis and Tuberculosis.

The total deaths from phthisis numbered 904, equal to a death-rate of 1·09 per 1,000 population. In the previous year the rate was only 1·00. In the rural districts the death-rate was only 0·97, but in the urban districts it was 1·19. The deaths from other forms of tuberculosis numbered 610, which is almost identical with the number in the previous year, and the total death-rate from all tubercular diseases was 1·84 per 1,000 population, which is 0·10 higher than in 1905.

In many of the district health reports reference is made to the means of reducing the mortality from tuberculosis, and several medical officers of health are in favour of compulsory notification of the disease. In Jarrow and Hebburn, where the voluntary notification of phthisis has been on trial for the last

Notification.

Value of
sanatorium
treatment.

few years the results have been very unsatisfactory, for in Jarrow only 8 notifications were received although 54 deaths from phthisis were registered, while in Hebburn there were 28 deaths while only 19 notifications were received. The medical officers of health of both these districts are strongly in favour of the disease being made compulsorily notifiable. In several of the reports the sanatorium treatment of cases of phthisis is urged, though it is now generally recognised that as a rule a permanent cure can only be effected when the disease is dealt with in an early stage. Nearly all phthisical patients benefit considerably as a result of sanatorium treatment, but, unfortunately, the patient on leaving the sanatorium has often to return to home or industrial conditions where it is impossible to continue the essentials of sanatorium treatment and a relapse occurs. If proper housing and suitable employment could be secured for phthisical patients on their leaving sanatoria a very much larger proportion would be permanently benefited. In all cases there is very little doubt that sanatorium treatment prolongs the life of a patient, and it also educates the patient as to the precautions necessary to prevent the spread of the disease. In some of the district reports the isolation of advanced cases of phthisis is urged on preventive rather than curative grounds, as owing to the large quantity of infected expectoration voided by this class of patient there is often a very great danger to those living in the same house, and to the general public.

Use of
small-pox
hospitals as
consumptive
sanatoria.

During the year the Lanchester Joint Hospital Board decided to utilise their small-pox hospital at Maiden Law for the reception of advanced cases of phthisis, and the experiment will be watched with interest throughout the County.

Tuberculosis
milk.

The dangers arising from the sale of tuberculous milk and from ill-ventilated, badly lighted and insanitary cowbyres are referred to in several of the district reports. A systematic bacteriological examination of the milk supplied to some of our large towns has proved that a considerable percentage contains the living germs of tuberculosis, and without doubt a very large number of deaths from tuberculosis among young children are the result of drinking milk so infected.

Acute Lung Diseases.

The deaths from bronchitis, pneumonia and pleurisy declined from 2,572 in 1905 to 2,156, and the death-rate per 1,000 population from 3·16 to 2·62. The rate in the urban districts was distinctly higher than in the rural areas. Several of the reports refer to the practise of mothers taking their infants out into the night air as one of the causes of the high mortality among young children from these diseases.

Decreased
death-rate.

Malignant Diseases.

The deaths from cancer and other malignant affections numbered 541, which, though considerably exceeding the number for 1905 (473), is less than the number of deaths registered in the previous year. The county death-rate from these diseases was 0·65 per 1,000 population, as compared with a rate of 0·58 in the previous year. The death-rate from this class of disease was exceptionally high in Hetton, Ryton, and in the Auckland rural district.

Bacteriological Examinations.

The following table gives particulars of the specimens sent by medical practitioners in the administrative county for examination during 1906, in accordance with the arrangement made between the County Council and the Durham College of Medicine :—

	Number of specimens submitted.	Results.		
		Positive.	Negative.	In- conclusive.
Diphtheria	243	93	150	..
Enteric Fever	153	70	78	5
Tuberculosis (Phthisis, &c.)	357	146	211	..
Ankylostomiasis .. ..	..	..	..	..
Totals .. .	753	309	439	5

Bacterio-
logical
examina-
tions.

There was a very marked increase in the number of specimens submitted for examination, 320 more having been examined than in the previous year. The facilities granted by the County Council for such examinations are greatly appreciated by the medical profession, and in several of the reports reference is made to their value from a sanitary standpoint. The percentage of positive results to total examinations made was 41, as compared with 42·2 in the previous year.

Water Supply.

New and
improved
supplies.

There was little change during 1906 in the water supplies of the administrative county, but some improvements in local supplies are recorded. The populous Usworth township in the Chester-le-Street rural district was provided with a more satisfactory supply from the Newcastle and Gateshead Water Company, while improvements in the supplies were effected at Gainford, Staindrop, and Aukside in the Barnard Castle rural district. Negotiations for supplying the populous district of Tunstall in the Sunderland rural district with water from the Sunderland and South Shields Water Company continued during the year, and there appears to be a reasonable prospect of a satisfactory supply being shortly obtained. The attention of the authorities concerned was drawn by the County Council to insufficient or unsatisfactory water supplies at Sherburn and Coxhoe Square in the Durham rural district, and at Shotton Colliery and Horden Colliery in the Easington rural district, while steps were also taken jointly with the Spennymoor U.D.C. to prevent the risk of contamination of a portion of the water supply of that town, and in several of these cases there is reason to hope that an improved supply will shortly be provided. A serious epidemic of enteric fever, which occurred in the village of Coxhoe during September, was undoubtedly caused by the pollution of a farm water supply, and the County Council subsequently called the attention of the district sanitary authorities to the importance of a pure and sufficient water supply to all dairy farms. I am glad to state that the replies subsequently received from a

Water in
relation to
disease.

number of the authorities indicate that systematic action is being taken for the improving of the farm water supplies in their districts. Generally speaking the water supply to the populous districts in this county is satisfactory, but unfortunately many dairy farms in outlying rural areas are dependent for their supply on springs and shallow well waters which are liable to serious pollution.

Water
supplies to
dairy farms.

In his annual report the medical officer of health of Houghton-le-Spring calls attention to the uncertainty of the water supply to that town owing to serious subsidences damaging the storage reservoirs. He also points out that the water contains a large quantity of black oxide of manganese which causes the pipes to fur up, with the result that it is almost impossible to maintain an even pressure. Improvements in the storage and filtering arrangements in connection with the water supplies of the towns of Darlington and Bishop Auckland, which draw their water from rivers to which sewage has access above the intakes, were effected during the year.

Uncertain
supplies.

Improve-
ments in
river
supplies.

Housing of the Working Classes.

Owing to prosperity in the coal trade and the opening up of new collieries in several districts a large number of new dwellings were erected during 1906, more especially at Dean Bank, Ferryhill, at Horden and Shotton Collieries, at Chester-le-Street and in the Usworth and Washington districts, but owing to the natural increase of population and the demand for labour the additional houses erected appear to have in no way relieved the gross overcrowding which prevails in many districts.

New
dwellings.

During the year the County Council exercised its powers as far as possible under the Housing of the Working Classes Act in respect of insanitary dwellings, but owing to the lack of housing accommodation for many of the tenants who would be displaced from insanitary houses for which closing orders were necessary, progress was somewhat slow.

County
Council's
action
respecting
unhealthy
dwellings.

County
Council's
want of
power in
urban
districts.

In urban districts the County Council has unfortunately no power to proceed under Part II. of the Housing of the Working Classes Act, 1890, when the district council makes default in dealing with houses unfit for habitation, but in the rural districts the County Council exercised their powers with respect to 137 houses, while in the case of over 50 houses situated in the Usworth township and in Edmondsley the County Council made application to the Justices for closing orders in consequence of the default of the Chester-le-Street rural district council. In consequence of a representation by the County Council as to the insanitary condition of a large number of back-to-back houses at Marley Hill the Local Government Board caused an inspection of the Whickham urban district to be made by one of their medical inspectors, but his report had not been issued up to the end of the year.

Back-to-
back
dwellings.

Action under
Part III. of
H.W.C.A.,
1890.
Sunderland
R.D.

During 1906 the Sunderland rural district council prepared a scheme for erecting, under Part III. of the Housing of the Working Classes Act, 1890, about 100 houses at Ryhope and Tunstall, and application was made to the Local Government Board for sanction to borrow the amount necessary to carry it out. Arising out of the enquiry held by the County Council in 1905 in consequence of a representation presented by the Usworth parish council under Section 6 of the Housing of the Working Classes Act, 1900, the County Council, after vainly endeavouring to induce the Chester-le-Street district council to adopt Part III. of the Housing Act of 1890 and erect workmen's dwellings, and having failed in their efforts to induce the owners of the collieries situated in that township to provide the necessary dwellings for their workmen, passed a resolution that the rural district council had made default in the matter and decided to carry out a scheme for the erection of workmen's dwellings in the township, and they have since entered into negotiations to obtain a suitable site. Application will subsequently be made to the Local Government Board for their sanction to carry out the scheme.

County
Council—
Usworth.

In many of the district reports reference is made to overcrowding in houses and also to the necessity for improving the housing conditions, but in only a few districts was systematic action taken by the local authorities under the Housing of the Working Classes Acts to remedy the defects. The medical officer of health for Chester-le-Street in his annual report calls attention to the fact that some of the new houses erected in the Usworth district did not contain the required accommodation for a working man's family, and he expresses the opinion that legislation should be introduced at an early date to deal with the floor space of rooms in order to prevent undue restriction in their area.

Overcrowd-
ing.

Floor space
in rooms.

House Drainage, Sewerage, and Sewage Disposal.

Reference is made in many of the district health reports to improvements in the drainage and sewerage in the county area, and fairly satisfactory progress appears to have been made in this direction during 1906. The objectionable open channels, to which in previous reports I have frequently referred, still exist in some of our mining districts, and are a fertile source of ill-health. They are gradually being abolished, but unfortunately in some districts the local authorities still require to be convinced that well-constructed covered drains and sewers, provided with proper ventilation and trapped openings, are immeasurably more sanitary. Improved schemes of sewerage and sewage disposal are under consideration or are being constructed in Durham City, Bishop Auckland, Spenny-moor, Whickham, and in parts of the rural districts of Auckland, Chester-le-Street, Easington, and Sedgefield, and during 1906 the County Council brought pressure to bear on the authorities of these and other districts to carry out necessary works of sewerage. In many instances, however, the progress was very slow, owing partly no doubt to the large expense involved in carrying out efficient schemes. As regards the best available means of sewage disposal, a very valuable report by Dr. Reid,

Open
channels.

Improved
sewerage
schemes.

Means of
sewage
disposal.

Construction
of percolat-
ing filters.

the county medical officer for Stafford, was issued during the year, from which it appears that in percolating filters of proper construction nearly the whole of the purification occurs in the upper part of the filter, and almost entirely in the first two feet, and it is highly probable that percolating filters three feet deep are at least as efficient as those of greater depth. Dr. Reid also showed that the inefficiency of many percolating filters is the result of the filtering material being too coarse, and after prolonged experiments he proved that the best results were obtained by the use of filtering material the particles of which averaged one-eighth inch in diameter. A copy of this valuable report was sent by the County Council to every district authority in this county.

County
Council's
action
during 1906.

In the following tables will be found a statement of the notices served and legal proceedings taken during 1906 under the Rivers Pollution Prevention Acts; and also a list of the sewage disposal works provided during 1906, a list of places where the sanitary authorities have undertaken to provide sewage disposal works, and a list of places for which sewage disposal works are necessary, if the pollution of important watercourses is to be prevented : —

A STATEMENT of STATUTORY NOTICES SERVED during 1906 and Results.

Defendants.	Place.	Stream Polluted.	Date of Notice.	Result of Notice without Legal Proceedings.
Easington R.D.C. ...	Deaf Hill & Trimdon Foundry	River Skerne and Tributary	30-1-06	
Annfield Plain U.D.C.	Dipton Sewage Works	Dipton Burn, &c. ...	9-5-06	Minor repairs carried out.
Do. ...	Kyo Sewage Works	Kyo Burn, &c. ...	19-11-06	Nothing done.
Benfieldside U.D.C. ...	Shotley Bridge ...	River Derwent ...	28-7-06	Plans to be prepared.
Crook U.D.C. and Auckland R.D.C.	Escomb Sewage Farm	Beechburn Beck and River Wear	31-7-06	Plans prepared for relaying a portion of main sewer.
Chester-le-Street R.D.C.	Twizell Colliery ...	Blindy Burn ...	31-7-06	Sewage intercepted and conveyed to purification works.
Lanchester Joint Hospital Board	Tanfield Hospital	Farlieth Burn ...	28-7-06	Works in hands of Contractor.
Spennymoor U.D.C. ...	Spennymoor Sewage Works	Tudhoe Wood Beck, &c.	28-7-06	Purification works to be provided for Tudhoe Colliery district, and plans are to be prepared for similar works for the other places.
Do. ...	Tudhoe Grange ...	Do.		
Do. ...	Tudhoe Village ...	Do.		
Do. ...	Tudhoe Colliery ...	Nickynack Beck, &c....		
Do. ...	Tudhoe Village ...	Do.		
Do. ...	Low Spennymoor	Croxdale Beck, &c. ...		
Tow Law U.D.C. ...	Tow Law ...	River Deerness, &c. ...	9-5-06	Nothing done.
Messrs. Bell Brothers...	Tursdale Colliery	Croxdale Beck, &c. ...	19-11-06	Settling and screening tanks put in order.
Darlington R.D.C. ...	Haughton-le-Skerne	River Skerne ...	19-11-06	An amended scheme forwarded to the L.G. Board for approval.

Statutory notices served.

A STATEMENT of COUNTY COURT PROCEEDINGS taken during 1906 and Results.

Defendants.	Place.	Stream Polluted.	Date of Proceedings.	Result of Action.
Auckland R.D.C.	... Coundon Sewage Works ...	Coundon Beck...	14-3-06 13-6-06 16-10-06	Further adjourned. Do. Withdrawn on payment of costs. Works improved.
Do.	... Auckland Park Colliery and Eldon Lane	Dene Beck and River Gaunless	4-06 6-06	Subsequently withdrawn on payment of costs. Scheme prepared by R.D.C.
Sedgefield R.D.C.	... Mainsforth Terrace, Chilton Lane, &c.	River Skerne, &c.	20-2-06 15-5-06 23-10-06	Further adjourned. Do. Do.
Blaydon U.D.C.	... Smailes Estate and Victoria Garesfield	River Derwent...	13-2-06 14-8-06	Further adjourned. Order made to take effect in 6 months.
Chester-le-Street R.D.C.	Alma Pit Sewage Works ...	Stanley Burn ...	18-6-06 13-8-06 19-11-06	Adjourned. Further adjourned. Do.
Tow Law U.D.C.	... Tow Law ...	River Deerness, &c. ..	10-11-06	An engineer was appointed to report to the Court under Sec. 10 of the R.P.P. Acts, 1876.

Sewage Works provided during 1906.

CHESTER-LE-STREET RURAL DISTRICT—

Sunniside and Streetgate.

DURHAM RURAL DISTRICT—

Shincliffe (land laid out for irrigation purposes).

LANCHESTER RURAL DISTRICT—

Quebec.

WEARDALE RURAL DISTRICT—

Wearhead.

HETTON URBAN DISTRICT—

Glebe Sewage Farm (additional filter bed).

TANFIELD URBAN DISTRICT—

Tanfield Lea.

New sewage
disposal
works.

No sewage disposal works to prevent the pollution of the streams hereafter mentioned have as yet been constructed at the following places :—

Polluting
districts.

River Gaunless and Tributaries.

AUCKLAND RURAL DISTRICT—

Butterknowle; Copley Bent; Low Evenwood; The Oaks and a portion of Evenwood; Spring Gardens; West Auckland; St. Helen's Auckland; Tindale Crescent, St. Andrew; Fielden's Bridge, St. Andrew; South Church; Eldon Colliery; Auckland Park.

BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

River Skerne and Tributaries.

DARLINGTON RURAL DISTRICT—

Aycliffe; Haughton-le-Skerne.

EASINGTON RURAL DISTRICT—

Deaf Hill Colliery; Trimdon Grange Foundry.

SEDFIELD RURAL DISTRICT—

Ferryhill Station Village and Chilton Lane; Bishop Middleham.

River Browney and Tributaries.

CHESTER-LE-STREET RURAL DISTRICT—

Witton Gilbert.

DURHAM RURAL DISTRICT—

Bearpark Colliery ; Crossgate Moor.

LANCHESTER RURAL DISTRICT—

Lanchester ; Hedley Hope Colliery ; Ushaw Colliery and Broom Lane Terrace ; Hamsteels Colliery and Railway Terrace.

BRANDON AND BYSHOTTLES URBAN DISTRICT—

Browney Colliery ; Sleethburn Colliery (East side).

CROOK URBAN DISTRICT—

Peases' West, Stanley.

TOW LAW URBAN DISTRICT—

Tow Law.

River Wear and Tributaries.

AUCKLAND RURAL DISTRICT—

Witton Park ; Hunwick, &c. ; Todd Hills ; Sunnybrow ; Byers Green ; Binchester Blocks.

CHESTER-LE-STREET RURAL DISTRICT—

Ropery Lane, Chester-le-Street ; Pelton Village ; Pelton Fell Colliery.

DURHAM RURAL DISTRICT--

East Hetton ; California, Coxhoe.

WEARDALE RURAL DISTRICT—

Cows Hill ; Ireshopeburn ; Eastgate ; West end of Westgate.

BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

DURHAM URBAN DISTRICT—

Durham.

SPENNYMOOR URBAN DISTRICT—

Tudhoe Village ; Tudhoe Colliery ; Tudhoe Grange ; Low Spennymoor.

WILLINGTON URBAN DISTRICT—

Page Bank.

List of places where the District Council at the end of 1906 had undertaken to provide works :—

Works to be provided.

AUCKLAND RURAL DISTRICT—

Witton Park ; Eldon Colliery ; Auckland Park Colliery ; South Church.

CHESTER-LE-STREET RURAL DISTRICT—

Ropery Lane, Chester-le-Street.

DURHAM RURAL DISTRICT—

Sherburn.

EASINGTON RURAL DISTRICT—

Murton Colliery ; Deaf Hill and Trimdon Foundry.

SEDFIELD RURAL DISTRICT—

Chilton Lane ; Bishop Middleham.

BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

BLAYDON URBAN DISTRICT—

Blackhall Mill ; Victoria Garesfield ; Rowlands Gill ; Chopwell Colliery.

BRANDON AND BYSHOTTLES URBAN DISTRICT—

Brownley Colliery ; West Sleethburn (East side).

DURHAM U.D.—Durham.

SPENNYMOOR U.D.—Spennymoor (whole district).

STANHOPE U.D.—Stanhope.

Excrement Disposal and Removal.

One of the most satisfactory improvements effected in many sanitary districts during 1906 has been the abolition of large numbers of insanitary ashpit-privies which all sanitarians are agreed have in the past been one of the most fruitful causes of ill-health. As a general rule small ashclosets have been substituted for the ashpit-privies, though in some districts the sanitary advantages of waterclosets over all other forms of excrement disposal are being more generally recognised. One of the greatest advantages of the ashcloset over the ashpit-privy is that its small capacity for offensive refuse necessitates frequent cleansing, and in consequence, where there is efficient scavenging, nuisances resulting from the accumulation of

Abolition of midden-privies.

offensive refuse near to dwellings are largely avoided. In some districts, however, the lighting and ventilation of some of the ashclosets are not satisfactory, and more attention should be given to these important requirements. Many of the district medical officers of health express the opinion that the nuisances inseparable from the ashpit-privy system were responsible for outbreaks of diarrhœa, enteric fever and other diseases.

Middens
and disease.

Scavenging.

As regards scavenging and refuse removal, the work is in an increasing number of districts now performed by the servants of the district councils, and the results appear to be much more satisfactory than when the work is let by contract to farmers and others who frequently require to be kept under strict supervision by the inspectors of nuisances to ensure that the work is done at all satisfactorily.

County
Council
action.

During the year the County Council called upon the district councils of Benfieldside and Ryton to undertake the work of scavenging and refuse removal in their districts under Section 42 of the Public Health Act, 1875, and it is satisfactory to know that those authorities have intimated their intention of in future taking the responsibility for this important work. Consequently the only urban district in the county in which the scavenging and removal of house refuse is not undertaken or contracted for by the district council is Leadgate, and the medical officer of health of that district has on several occasions expressed the opinion that his council should take upon itself that responsibility. In my last annual report I drew attention to the importance of scavenging ashpits, privies and the like during the night-time, when the unavoidable nuisances arising from the work would be reduced to a minimum, and the medical officer of health for Sedgefield rural district, while regretting that night scavenging is not carried out during the summer months in the populous parts of his district, says "I am quite certain that the defect in this instance
"added its quotum to the causation of some of these deaths
"from diarrhœa, especially as on several occasions I have seen
"the scavengers at mid-day in the hottest parts of August

Importance
of night
scavenging.

“slowly wending their way through the most crowded parts of their district with most offensive loads, putrifying the air for miles.” In several of the district health reports the difficulty of disposing of the offensive house refuse is mentioned, and the provision of a refuse destructor as the best way of overcoming the difficulty is urged. In those districts in the county where refuse destructors have already been constructed the result has been satisfactory.

Refuse
destructors.

Cowsheds, Dairies, and Milkshops.

During 1906 more attention than usual appears to have been given to the sanitary condition of these places, partly, no doubt, owing to the action of the County Council in drawing the attention of the district authorities to the serious epidemic of enteric fever at Coxhoe, which resulted from the pollution of a dairy farm water supply, and also owing to the increasing interest taken by the general public in the question of a pure milk supply. Without doubt, in several of the rural districts systematic action was taken for the improvement of the water supply of many of the dairy farms, while more attention was given to the sanitary condition of the cowbyres. Not only is there urgent need in this county and throughout the country to improve the conditions under which milch cows are housed, but now that it has been proved that tuberculosis in the cow and the human subject is one and the same disease, and that it can be transmitted from the cow to man, the necessity for the early detection of tuberculosis in the cow is evident, and it is therefore very desirable that periodical veterinary inspection of all milch cows should be enforced. That this risk of the transmission of tuberculosis from the cow to man is a real one is proved by the fact that in 10 per cent. and even more of the samples of milk taken for bacteriological examination in some of our large towns the living germs of tuberculosis were found. In many of the district annual reports the purity of the milk supply and the means necessary to ensure it receive but little attention.

Improved
sanitation.

Improved
water
supplies to
dairy farms.

Necessity
for
periodical
veterinary
inspection of
milch cows.

Slaughter-houses.

In no district in the county has a public slaughter-house as yet been provided, and in many of the reports only a very short reference is made to the condition of the private slaughter-houses. The desirability of providing public slaughter-houses is mentioned in several reports, and it is manifest that under existing circumstances satisfactory and systematic inspection of the meat supply for human consumption is quite impossible having regard to the sanitary staff available and the large number of private slaughter-houses, many of which are unsatisfactory either as regards construction or situation. In several districts slaughter-houses are not registered.

Food and Drugs Act.

The samples of food and drugs taken for analysis in the administrative county by the county or district officials was 951, and of these 82, or 8·6 per cent., were found to be adulterated. In the previous year the samples analysed numbered 984, and 9·3 of these were adulterated.

In the 5 non-county boroughs the administration of the Food and Drugs Act is in the hands of borough officials, and of the 277 samples taken for analysis 12, or 4·3 per cent., were not genuine.

Factories and Workshops.

In a considerable number of the sanitary districts of the county the inspection of these premises is for the most part undertaken by the inspectors of nuisances, though in some districts the medical officer of health himself discharges the duties imposed upon him by the Act of 1901. Nearly all the reports of the medical officer of health contain a tabulated statement of action taken under the Factory and Workshop Act during the year, but a perusal of the tables suggests either that the inspections made are not very frequent or minute, or else that the sanitary condition of the workshops and workplaces is very satisfactory, as the defects reported are neither numerous nor serious.

Common Lodging-houses.

These places appear to have received more or less supervision in most districts, and in none of the annual reports is any reference made to the spread of infectious disease by their agency. The medical officers of health of Hartlepool, Hebburn and Houghton-le-Spring and the Sedgefield rural district urge the provision of more common lodging-houses with the object of reducing the overcrowding of dwellings which results from the taking in of lodgers. Many of the common lodging-houses in the county are of poor construction, and the accommodation contained therein is unsatisfactory.

Streets.

In many districts, not only in the colliery villages situated in rural districts but also in many of the urban districts, it would appear from the reports of the medical officers of health that the condition of many front and back streets, especially in winter time, is most unsatisfactory, and the necessity for their improvement is urged in many of the reports. Special reference to the necessity for street improvements is made in the reports for Crook, Hetton, Houghton-le-Spring, Ryton, Shildon, Spennymoor, Tow Law, Whickham, and Willington, while in some of the populous villages in the rural districts the need is equally pressing.

In every street which provides means of access to dwelling-houses impervious footpaths and proper surface drainage are, from a health point of view, essential, though unfortunately it is practically impossible to enforce this improvement by the sanitary provisions of the public health acts.

Essentials of
sanitary
streets.

Bye-laws.

Bye-laws under the Public Health Act, 1875, with respect to new streets and buildings are now in force in every sanitary district in the county excepting Sedgefield, and following suggestions made in a circular issued by the Local Government Board, several of the rural authorities decided to revise their building bye-laws with the object of reducing the cost of

Revision of
rural
building
bye-laws.

Bye-laws.
County
Council's
action.

L.G.B.
action.

construction of dwellings. The County Council towards the end of 1905 wrote to the Local Government Board protesting against any relaxation of the sanitary requirements of building bye-laws, and asking that the Board should inform the County Council of any proposed modification in the sanitary provisions of the building bye-laws in force in the administrative county before they receive the approval of the Board. In a reply the Local Government Board stated "that they attach great importance to the maintenance of the sanitary requirements of bye-laws, and to the necessity, in areas of urban characteristics, for series dealing with several matters in greater detail than was deemed expedient in the rural model code with respect to new buildings and certain matters in connection with buildings. The Board will be willing to consider any general suggestions which the County Council may wish to submit, but they cannot undertake to communicate with the Council in regard to particular series of bye-laws which may be submitted for confirmation. It is of course open to the County Council to put their views before the Rural District Councils of the county either generally or in particular instances."

The Board also forwarded to the County Council a memorandum which they had recently issued to rural district councils on this subject in which they state that their object "is to secure that while sanitary requirements should be strictly observed, all necessary impediments in the development of building should be avoided," and the memorandum also states that "the Board are aware that there are in not a few rural districts areas possessing urban characteristics or containing considerable aggregations of rapidly growing populations for which a more comprehensive series of bye-laws is desirable. Indeed in areas of this kind the bye-laws may properly and desirably approximate to those in force in urban districts."

In very many of the rural districts in this county the majority of the population live essentially under urban

conditions, and it is to be hoped, therefore, that the sanitary authorities of those districts, as well as the Local Government Board, will especially recognise this fact when making any alterations in building bye-laws.

Midwives Act, 1902.

On the 31st March, 1907, there were 253 certified midwives resident in the county, and of those 54 were certified in consequence of having passed a qualifying examination, while 199 obtained their certificates owing to having been in bonâ-fide practice prior to the Act coming into force. The number of midwives who gave notice of their intention to practice midwifery in the county during 1906 was 198.

Number of
midwives
and their
qualifica-
tions.

During the year the midwives were periodically inspected by two lady medical inspectors appointed by the County Council, and their reports indicate that a considerable improvement was effected in the cleanliness and methods of practice of the majority of the midwives in consequence of such supervision. The midwives were instructed, as far as possible, how to keep their registers of cases, how to use a clinical thermometer and other appliances, and the importance of cleanliness and of the observance of the regulations of the Central Midwives Board was constantly impressed upon them.

Results of
inspections.

In several instances I made personal visits to midwives. No midwife was reported by the Local Supervising Authority to the Central Midwives Board for misconduct, but during the year I issued 64 letters of warning to certified midwives owing to want of compliance with the rules of the Central Midwives Board or for other reasons, and 9 of these midwives were subsequently formally warned by the Clerk of the Supervising Authority.

Warnings to
midwives.

Elementary Schools.

Very extensive and important improvements in the sanitation of the elementary school buildings in the county were effected or initiated during 1906, and in addition the erection of a large number of new schools was undertaken. Attention was also given to the question of the training of

Improved
sanitary
state of
schools.

Training of
teachers in
hygiene.

school teachers in hygiene, and in the appointment of new teachers their knowledge of elementary hygiene was considered.

Disinfection
of schools.

At the request of the Education Committee, I advised them as to the best method of disinfection of school buildings, and my recommendations have since been adopted.

“ Health
talks ” to
school
children.

Arrangements were made for the lady medical inspectors of midwives to give, as far as their other duties would permit, instruction in elementary hygiene to the elder children in the elementary schools, and, in consequence, a number of “ Health Talks ” were given on such subjects as the importance of pure air and pure water, the necessity for cleanliness, the feeding and management of infants, &c., and the “ Talks ” appear not only to be appreciated by the teachers, but judging by the results of examinations held on the subjects taught, much of the information imparted was absorbed by the children. A much more rapid and satisfactory method, however, of instructing the children in our elementary schools in the elements of domestic hygiene would be through the teachers themselves, and for this purpose special arrangements should be made for the instruction of the teachers in the subject by well-qualified inspectors.

Infectious
disease and
school
attendance.

In their annual reports the medical officers of health of Whickham and Stanhope complain that pressure is used by the Education Authority to force children living in infected houses to attend school. It is most undesirable that children from houses, any inmate of which is suffering from such diseases as scarlet fever, diphtheria, measles, whooping cough, chicken-pox or mumps, should attend school, and the school attendance officers should fully recognise this fact and act accordingly. It is often much more important from the point of view of disease prevention to keep from school children from infected houses than to close the school.

Local Government Board Enquiries.

The following Local Government Board Enquiries were held during the year into applications from local authorities in the county for loans for sanitary purposes :—

1906.	Applicant.	Amount.	Purpose.	Result.	L.G.B., enquiries, 1906.
April 24	Whickham U.D.C.	£6,000	Works of sewerage at Sunnyside and Marley Hill.	Loan sanctioned.	
July 18	Sedgefield R.D.C.	£2,400	Works of sewerage and sewage disposal for Dene Bridge, Chilton Buildings, and Windlestone Row, in the township of Chilton.	Loan sanctioned.	

The Local Government Board during 1906 sanctioned the loans in respect of works of sewerage at Bishop Middleham in the Sedgefield rural district, Durham City, and Haughton-le-Skerne in the Darlington rural district, which were shown in the table on page xlvi of my annual report for 1905 as still pending.

County Council Enquiries.

The following tabulated statement contains a list of enquiries bearing on public health administration held by the County Council since its constitution to the end of 1906, which it appears to me desirable should be recorded in my annual report. This table will be continued in subsequent annual reports :—

Date of Enquiry.	Applicant.	Subject of Enquiry.	Result.
15th Sept., 1891.	Certain ratepayers within the area affected.	Formation of part of the Lanchester R.D. into an Urban District. (Stanley U.D.)	C.C. Order made 4th Nov., 1891 (No. 1), to come into operation 31st March, 1892.
9th June, 1892.	Ditto.	Formation of part of the Lanchester R.D. into an Urban District. (Annfield Plain U.D.)	Application refused.
28th Feb., 1894.	Ditto.	Extension of the Urban District of Spennymoor.	C.C. Order made 25th April, 1894 (No. 2), to come into operation 15th April, 1895.

County
Council
enquiries,
1891—1906.

Date of Enquiry.	Applicant.	Subject of Enquiry.	Result.
19th Sept., 1894.	Overseers of the township of Tanfield.	Formation of part of the Lanchester R.D. into an Urban District. (Tanfield U.D.)	C.C. Order made 7th Nov., 1894 (No. 25), to come into operation 15th June, 1895.
1st April, 1895.	Certain ratepayers within the area affected.	Formation of part of the Lanchester R.D. into an Urban District. (Annfield Plain U.D.)	C.C. Order made 23rd Oct., 1895 (No. 44), to come into operation 30th Sept., 1896.
6th Sept., 1895.	Whickham U.D.'C.	Inclusion of a portion of Chester-le-Street R.D. in Whickham U.D.	C.C. Order made 23rd Oct., 1895 (No. 45), to come into operation 31st March, 1896.
2nd Dec., 1895, and 14th Feb., 1896.	Chester-le-Street R.D.C.	Transfer of Craghead Parish to Lanchester R.D.	C.C. Order made 15th April, 1896 (No. 57), to come into operation 30th Sept., 1896.
11th Jan., 1897.	County Health Committee.	Isolation hospital accommodation for Fellng U.D.	C.C. Order made 1st May, 1901.
12th Jan., 1897.	Ditto.	Isolation hospital accommodation for Whickham U.D.	C.C. Order made for Joint Hospital District 24th Nov., 1903, and confirmed by L.G.B. on appeal.
14th Jan., 1897.	Ditto.	Isolation hospital accommodation for Spenny-moor U.D.	No Order made. Hospital provided by U.D.C.
13th April, 1897.	Ditto.	Isolation hospital accommodation for Hebburn U.D.	No Order made. Hospital provided by U.D.C.
26th May, 1897.	Crook Parish Council.	Formation of Township of Crook and Billy Row and part of the Township of Helmington Row into an Urban District. (Crook U.D.)	C.C. Order made 27th Oct., 1897 (No. 72) to come into operation 31st March, 1898.
13th July, 1897.	County Health Committee.	Isolation hospital accommodation for Sedgfield R.D.	C.C. Order made 1st May, 1901.
9th Dec., 1898.	Tanfield U.D.C. ...	Inclusion of a portion of Annfield Plain U.D. in Tanfield U.D.	C.C. Order made 11th Jan., 1899 (No. 86), to come into operation 31st March, 1899.

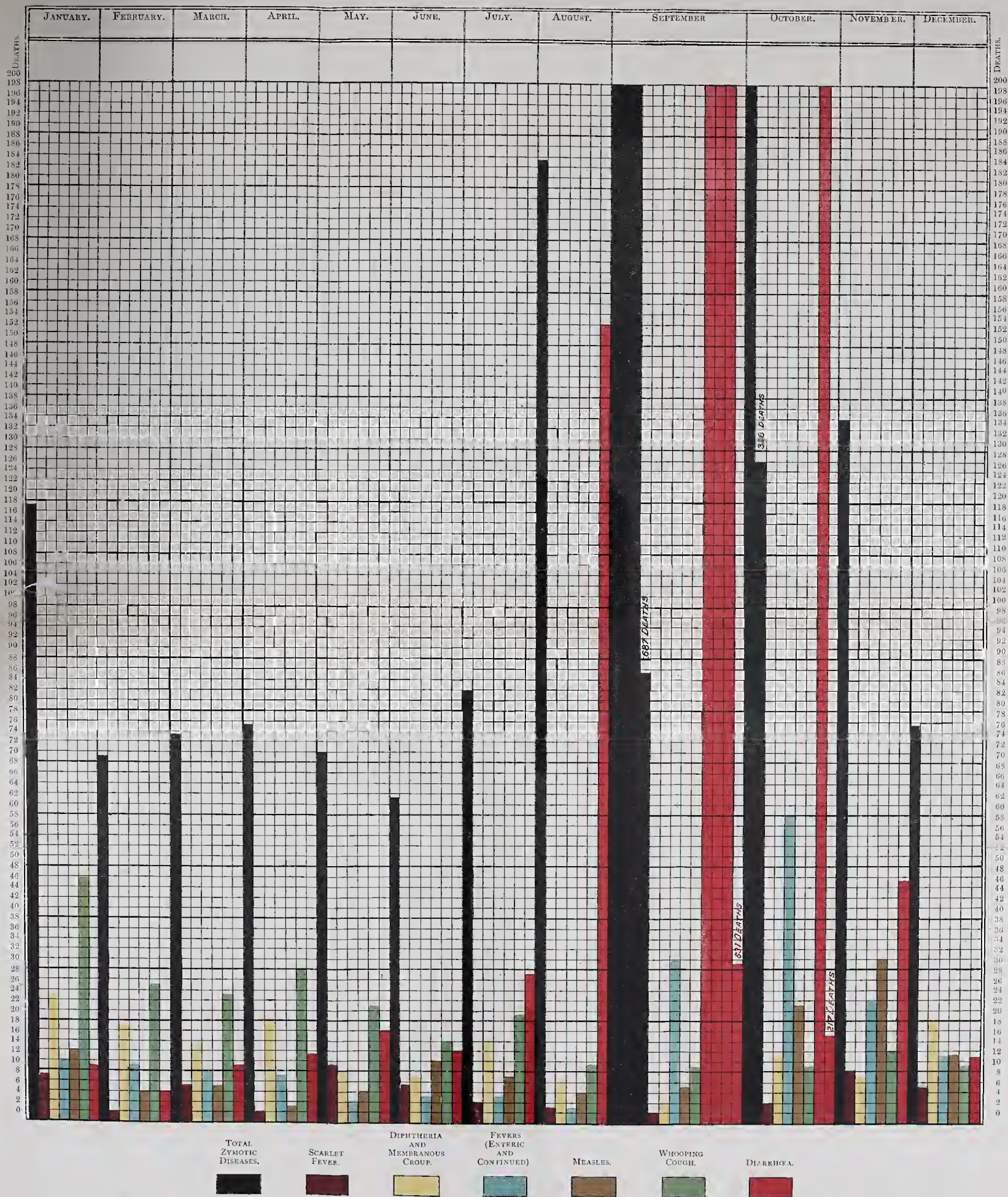
Date of Enquiry.	Applicant.	Subject of Enquiry.	Result.	County Council enquiries, 1891—1906.
14th Sept. 1899.	Auckland R.D.C...	Amendment of Order constituting Crook U.D. (No. 72) as regards sewerage works.	C.C. Order made 25th Oct., 1899 (No. 93), and confirmed by L.G.B. 10th Feb., 1900.	
14th May, 1900, and 13th Feb., 1901.	Blaydon U.D.C. and Lanchester R D.C.	Alteration of boundaries—Chopwell and Medomsley.	C.C. Order made 17th June, 1901 (No. 99), to come into operation 25th Sept., 1901.	
24th Sept., 1902.	County Health Committee.	Joint isolation hospital accommodation for Blaydon, Ryton and Whickham U.D's.	C.C. Order made for Joint Hospital District 24th Nov., 1903, and confirmed by L.G.B. on appeal.	
14th Dec., 1903.	Overseers of Chester-le-Street	Formation of Township of Chester-le-Street into an Urban District.	Application refused.	
12th Dec., 1904.	County Health Committee.	Small-pox hospital accommodation for Brandon and Byshottles U.D.	C.C. Order made for Joint Small-pox Hospital District 24th Jan., 1906, and confirmed by L.G.B. on appeal.	
Ditto.	Ditto.	Small-pox hospital accommodation for Durham R.D.		
26th Sept., 1905.	Ditto.	Small-pox hospital accommodation for Chester-le-Street R.D.		No Order made. Hospital provided by R.D.C.
3rd & 18th October, 1905.	Great and Little Usworth Parish Council.	As to transference of powers of Chester-le-Street R.D.C. under Part iii of the Housing of the Working Classes Act, 1890, to County Council.	Order made transferring powers of R.D.C. to County Council 25th July, 1906.	
28th Nov., 1905.	County Health Committee.	Joint small-pox hospital accommodation for Durham U.D.	No Order made.	
18th Dec., 1906.	Stanley U.D.C. ...	Alteration of boundary ...	Application refused.	

The following table and chart give certain monthly vital statistics, and appended to the report are other statistical tables. (See index).

TABLE SHEWING THE NUMBER OF BIRTHS, DEATHS, AND DEATHS FROM THE CHIEF
ZYMOTIC DISEASES IN THE ADMINISTRATIVE COUNTY OF DURHAM,
DURING EACH OF THE MONTHS OF 1906.

	Births.	Deaths.	Deaths under 1 year.	Total Zymotic Deaths.	Small-pox.	Scarlet Fever.	Diphtheria and Membranous Croup.	Fevers (Enteric and Continued)	Measles.	Whooping Cough.	Diarrhoea.
JANUARY	...	1385	440	119	...	9	25	12	14	48	11
FEBRUARY	...	1088	307	71	...	2	19	11	6	27	6
MARCH	1158	327	75	...	7	15	10	7	25	11
APRIL	1151	302	77	...	2	20	9	3	30	13
MAY	1156	313	72	...	11	10	4	6	23	18
JUNE	1033	286	63	...	7	9	5	12	16	14
JULY	947	247	84	...	4	16	5	9	21	29
AUGUST	1095	386	185	...	3	8	3	6	11	154
SEPTEMBER	...	1719	841	687	..	2	4	32	7	11	631
OCTOBER	...	1370	504	328	...	4	13	60	23	11	217
NOVEMBER	...	1134	306	136	...	10	9	24	32	14	47
DECEMBER	...	1223	324	77	...	7	20	13	13	11	13
TOTALS	...	14459	4583	1974	...	68	168	188	138	248	1164

Chart shewing the Number of Deaths during each Month of 1906 from the Seven Chief Zymotic Diseases.



NOTE.—There were no deaths from small-pox during the year.

In the months of September and October the Total Zymotics and Diarrhoea columns are, for convenience, widened instead of heightened.



BOROUGH.

DARLINGTON.

JAMES LAWRENCE, M.D., Medical Officer of Health.

Area in Acres, 3,956. Estimated Population, 1906, 49,500.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

28·7

15·9

2·2

142

Phthisis death-rate, 1·03.

Respiratory diseases death-rate, 1·7.

The birth-rate declined from 30·4 in the previous year to 28·7, but the chief mortality statistics have slightly risen. The higher zymotic and infant death-rates are attributed to the fatal prevalence of diarrhœal diseases. The report recommends a purer milk supply, and the appointment of a Lady Health Visitor as the best means of reducing the infant mortality.

Infectious Diseases.

The notifications declined from 344 to 232, owing to the lesser prevalence of scarlet fever and diphtheria. The number of cases of enteric fever declined from 50 to 39, but, as in the previous annual report, no reference is made to the etiology of the cases of this disease or scarlet fever. Excluding erysipelas, 83·4 per cent. of the notified cases were removed to hospital. No case of small-pox was reported during the year. Disinfection of all infected houses and clothing was systematically carried out.

General Sanitation.

The quality of the water supply, which is derived from the River Tees, is referred to favourably, and an additional filter has been brought into use at the waterworks. One polluted private well has been closed, and steps are being taken to prevent the water from three others being used for domestic purposes.

Reference is made to the scavenging, and in Dr. Lawrence's opinion the ash-pits in some districts have not been emptied as frequently as is desirable, nor was the cleansing of the back streets in all cases satisfactory.

Reference is made in the report to the inspection of bakehouses, slaughter-houses, and dairies and cowsheds, which appears to have been systematically performed. The nuisance inevitable from keeping pigs near dwellings in some localities is again mentioned.

The factories and workshops and the elementary schools have been kept under supervision, but there is nothing of special interest in the report respecting them.

There were 361 inspections of factories, workshops and workplaces, and 40 written notices were served. Thirty-four of the 39 defects noted were abated. There were 397 workshops on the register at the end of the year.

Sanitary Requirements.

The suggestions made in the report are :-

1. A purer milk supply.
2. The appointment of a Lady Health Visitor.
3. Improved scavenging.
4. A public slaughter-house.

DURHAM.

A. M. VANN, M.R.C.S., Medical Officer of Health.

Area in Acres, 1,065.		Estimated Population, 1906, 17,000.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
29'4	16'0	1'64	1'54
Phthisis death-rate, 0'82.		Respiratory diseases death-rate, 2'64.	

The above figures include the district recently added to the borough, and which was formerly included in the Durham rural district. Compared with 1905 the birth-rate is higher, while the chief mortality statistics are very much lower. Of the 97 deaths in public institutions 66 did not belong to the district.

Infectious Diseases.

There were 43 notifications, which, with one exception, is the lowest number recorded in any of the past 12 years. No case of small-pox occurred, but diphtheria continued to

increase in prevalence, 16 cases occurring, many of them in houses where the sanitary arrangements were satisfactory. The suggestion is again made in the report that the increase in the prevalence of diphtheria may be connected with the new sewerage system, especially as many of the new sewers are reported to be inadequately ventilated. There were only 5 cases of enteric fever, and the decline in the mortality from this disease has been very marked within the last 20 years, and is generally attributed to the abolition of the insanitary ash-pit-privies. The diminution in the prevalence of scarlet fever is attributed to hospital isolation, and 23 patients were treated in the hospital during the year, 13 of which were from the rural district.

The necessity for the provision of small-pox hospital accommodation is urged in the report.

General Sanitation.

The water supplied from the Weardale and Consett Water Company has been satisfactory. Improvements in insanitary dwellings have been made in New Elvet and Paradise Lane, but the report states that there are a number of obstructive buildings in the city which interfere with light and ventilation of occupied houses, and which might, with advantage, be cleared away. Six notices were served under the Housing of the Working Classes Acts, 1890; 2 houses were closed and steps are being taken to make the remaining 4 habitable. Details are given in the report of the progress made with the new sewerage scheme. The complaint of Dr. Vann as to the inadequate ventilation of the new sewers requires the attention of the Corporation.

The 10 cowsheds have been frequently inspected, but several of the cowkeepers do not recognise the necessity for proper light, ventilation, and cleanliness. Every cowshed has a proper supply of water from the public main, and each one has been measured and notice given to the occupier of the maximum number of cows allowed to be kept by him. Satisfactory supervision of the 23 slaughter-houses has been effected,

and many sanitary defects are reported to have been remedied. Printed cards containing extracts of the most important provisions of the bye-laws as to slaughter-houses have been supplied to the occupiers. The 5 common lodging-houses are reported to have been kept in a satisfactory condition.

There are 239 registered workshops, of which 24 are bakehouses, 4 of these being underground. Two hundred and seventy inspections were made and 76 defects noted, all but 3 of which were remedied by the end of the year. No out-workers are known to be employed in the district.

Under the Food and Drugs Act, 35 samples were taken, 32 of which were reported to be genuine. No proceedings against the vendors of the adulterated samples were taken, though one sample of milk was seriously adulterated with water.

In the inspector's department, 1,207 informal, and 105 formal notices were served, and 1,180 nuisances are reported to have been abated. Thirty-six ashpit-privies were replaced by W.C's. One sample of water was taken and condemned as unfit for use. There was one seizure of unwholesome food, and 10 houses and one school were disinfected after infectious disease.

Sanitary Requirements.

1. Hospital accommodation for small-pox cases.
2. Proper ventilation of all the sewers.
3. The demolition of all obstructive buildings.

HARTLEPOOL.

J. RAWLINGS, M.R.C.S., Medical Officer of Health.

Area in Acres, 735.		Estimated Population, 1906, 24,000.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
29·8	17·3	1·7	146
Phthisis death-rate, 0·87.		Respiratory diseases death-rate, 2·87.	

There was a slight decline in the birth-rate, and a small rise in the total, zymotic and infant death-rates. In the different wards the total death-rate varied from 14·2 in the Throston

Ward to 22·7 in the North Ward. The large proportion of deaths among young children is attributed to the insanitary condition of the houses in which they are born. It is also pointed out that the sanatorium treatment of consumptive patients is of little value if the patients have to return to insanitary dwellings.

Infectious Diseases.

The notified cases numbered 44, a decrease of 23 as compared with the previous year. None of the 21 cases of scarlet fever proved fatal, and only one of the 10 cases of diphtheria. There were only 3 cases of enteric fever, and the report states that the disease has almost ceased to exist in the borough since the abolition of the ashpit-privy system. Measles was responsible for 9 deaths, all of them in the first four months of the year, and there were 4 deaths from whooping-cough and 21 from diarrhœa. Only one case of infectious disease was removed to the Port Sanitary Hospital, wherein is provided the means of isolation for infectious patients from the borough.

General Sanitation.

The water supply was analysed on several occasions and found to be satisfactory, but one sample from a well was polluted, though the report does not state whether the well was in consequence closed. Seven insanitary dwellings have been closed as unfit for habitation, and 13 were pulled down. The common lodging-houses were frequently inspected, but Dr. Rawlings again points out that scarcely any of them are fit for the purpose for which they are supposed to be intended. The drainage of the town is stated to be satisfactory. Rules have been drawn up for the guidance of milk-sellers, and the premises of all milk-dealers have been inspected. Most of the milk supply is obtained from farms outside the borough boundary. The 22 slaughter-houses have been inspected, and necessary improvements made. One carcase of a cow was condemned and destroyed as unfit for food, as were also several lots of fish. The refuse destructor continued to work satisfactorily.

Under the Food and Drugs Act, 65 samples were analysed, and, with one exception, they were found to be good.

The number of nuisances abated during the year was 403. Under the Factory and Workshop Act, 76 inspections were made, and 12 defects were found, 10 of which were remedied. The total number of workshops on the register at the end of the year was 34, and of the 7 bakehouses, 3 were underground. No homework appears to be carried on in the district.

Sanitary Requirements.

1. Improved common lodging-house accommodation.
2. Better housing for the working classes.

JARROW-ON-TYNE.

J. M. NICOLL, M.B., Medical Officer of Health.

Area in Acres, 1,064.		Estimated Population, 1906, 34,625.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32·0	18·0	2·3	148
Phthisis death-rate, 1·58.		Respiratory diseases death-rate, 3·06.	

There was a slight decrease in the birth-rate, while all the chief mortality statistics were somewhat higher than in the previous year. The total and infant death-rates were, however, considerably below the mean of the previous 10 years. The North Ward again earned the unfavourable distinction of having the highest total death-rate (23·1), while as in previous years the lowest death-rate was in the Grange Ward (12·0). Taking the different quarters, the total death-rate progressively increased from the first (15·5) to the fourth quarter (21·9), and a similar progressive increase occurred with respect to the zymotic death-rate. Respecting the infant mortality-rate it is pointed out that more than one-third of the deaths under one year of age occurred during the first month of life.

The system of voluntary notification of phthisis resulted only in 8 notifications being received, and Dr. Nicoll again emphasises the necessity for making the disease compulsory

notifiable and he says "until this is done any action of the
 "sanitary authority is entirely or almost entirely nullified, while
 "the dangers from which the public ought to be protected go
 "on in a very great measure unchecked."

Infectious Diseases.

The notifications numbered 116, or 83 fewer than in the previous year, and the smallest number reported in any year since 1880. The most prevalent diseases were scarlet fever (38 cases), diphtheria and membranous croup (21), enteric and continued fevers (22), and phthisis (8). It is stated that school life did not seem to influence in any way the spread of scarlet fever nor was any suspicion attached to the milk supply. The same remark applies to the cases of diphtheria, 43 per cent. of which occurred in the last two months of the year. Eight of the cases proved fatal and Dr. Nicoll again points out the advisability of the sanitary authority providing a free supply of anti-diphtheritic serum for the treatment of those who are unable to meet the necessary expense. The cases of enteric fever about equalled the number notified in the previous year, but the mortality was higher, 6 deaths occurring. Most of the cases occurred in the South and North Wards, and in several instances the insanitary arrangements and the filthy habits of the people were powerful predisposing causes. There were 31 deaths from diarrhoea, 10 of which were in the North Ward; while whooping cough was responsible for 15, and measles for 21 deaths. In connection with the latter disease many of the schools were closed during the last quarter when all the fatal cases occurred, and by the end of the year the disease was practically stamped out. Thirty-five cases of infectious disease were admitted to hospital, as compared with 88 in 1905. During the year the hospital was repainted and renovated. From the Inspector's report it appears that 117 houses were disinfected, as well as the same number of lots of infectious bedding. Two schools were also disinfected, formalin being employed in all cases.

General Sanitation.

During the year over 350 one-and two-roomed dwellings were personally inspected by the Medical Officer of Health, but though some very serious defects and dilapidations were discovered, in no case were they sufficient to make the houses unfit for habitation, though some were so bad as to bring them exceedingly near that condition. The necessary steps were taken for remedying the defects. Overcrowding was found to be practically non-existent, and Dr. Nicoll says, taking the houses as a whole, that there is a very general and decided improvement as compared with their condition 10 years ago; he points out, however, that many of the defects were due to the destructive habits of the tenants, and he says "One could see that doors and roofs had been torn off out-houses, and even house doors and skirting-boards pulled off, and otherwise destroyed, whilst in a very large number of cases the dilapidated state of the plastering on the passages and walls could be due to no other cause. To commence with the properties are old and tending to decay, put into these a careless or destructive tenant and we have a combination of circumstances difficult alike to owners and the Sanitary Authority to deal with. These people, if transferred to the best houses, would very speedily bring them to a condition as bad as that in which they now live, and as far as I can see any amelioration or betterment must come from a desire on their part to live in a better, brighter, cleaner and healthier atmosphere, both mentally, morally, and physically. Their uplifting must be entirely a moral and educational one, and until such is achieved we will always have such places."

During the year action was taken under the Housing of the Working Classes Act respecting 40 dwellings in Commercial Road, Walter Street, and Tyne Street. By the end of the year 4 of the dwellings were closed, others had been made habitable, while the question of purchasing those in Walter Street as a site for the public baths was under consideration.

During the year 26 ashpit-privies were abolished, and

there are now only about 80 of these objectionable structures in the town. Seventeen defective yards were improved by the laying down of cement paving. Considerable improvement is reported in the work of scavenging and refuse removal, but the report again urges the importance of the proper paving of the back streets, and in view of the very unsatisfactory health conditions prevailing in the North Ward this locality should have the first and earliest attention. The pollution of the River Don is still under consideration.

The report urges an early commencement with the public baths and wash-houses, which it has practically been decided to erect in the North Ward. All the 25 workshops on the register were inspected, but only in 2 instances were notices required to be served, and the defects were subsequently remedied. There are only 6 known places in the district where home-work is carried on, and the premises of these were inspected and found to be in good order. Of the 59 samples of food and drugs taken for analysis, one of milk was found to be adulterated, and the offender was prosecuted and fined.

Eight hundred and seventy-five nuisances were abated consequent on the serving of 875 informal and 4 formal notices. Three samples of water were taken for analysis, but none of them were condemned as unfit for use. A number of persons were prosecuted for breaches of the borough bye-laws.

The report contains no reference to the general water supply of the borough nor to the condition of the dairies, cow-sheds, common lodging-houses, and slaughter-houses, though these matters are very shortly referred to in the tabulated statement prepared by the Inspector of Nuisances.

Sanitary Requirements.

1. The proper making of the back streets, especially in the North Ward, where the death-rate is persistently high.
2. The removal of the remaining ashpit-privies.
3. The prevention of the pollution of the River Don.
4. The gratuitous supply of diphtheria anti-toxin by the Corporation in necessitous cases.

STOCKTON.

THOMAS HORNE, M.D., Medical Officer of Health.

Area in Acres, 3,031.		Estimated Population, 1906, 54,168.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32·9	15·9	1·84	128
Phthisis death-rate, 1·25.		Respiratory diseases death-rate, 2·3.	

The birth-rate was 3·4 per 1,000 higher, and the total death-rate 1·7 per 1,000 lower, than in the previous year, while as regards the zymotic death-rate and infant mortality-rate the year under review compared very favourably with its predecessor. The report, as in previous years, contains valuable tables dealing with the population, birth-rate, and death-rate in the different wards, and comparing the chief vital statistics with those of previous years. Dr. Horne again deals at length with the prevention of tuberculosis, and urges the necessity of concerted measures for stamping out this disease, which has a higher mortality in Stockton than in the County generally.

The reduction in the infant mortality-rate is very satisfactory, and it is, in part, attributed to the work of the lady inspector, and to the methodical distribution of instructive leaflets by the local registrar. Dr. Horne says that the greatest hope of reducing infant mortality lies in education, and he refers to the Huddersfield experiment as evidence of what can be done in the reduction of infant mortality. During 1906 the mortality-rate among illegitimate infants was nearly double that of those born in wedlock.

Infectious Diseases.

The notified cases numbered only a little more than one-third of those of the previous year, 282 being reported, as compared with 754 in the previous year. The case mortality-rate also fell from 13·7 to 8·15 per cent. The most prevalent diseases were scarlet fever (142 cases, 1 death), typhoid fever (52 cases, 7 deaths), and diphtheria (50 cases, 10 deaths). Tables are given in the report showing the age and sex incidence, and the distribution of the cases of these diseases,

but no special reference is made in the report for 1906 to their etiology. The fall in the number of cases of diphtheria from 124 in 1905 to 50 in 1906, with, at the same time, a decline in the death-rate from 0·31 to 0·18 per 1,000 population, is to be regarded as very satisfactory. No case of small-pox was notified during the year. There was only one death registered from measles, but whooping-cough was responsible for 13, and there were 68 deaths from diarrhœa, or 41 more than in the previous year. No less than 62 of the deaths occurred during the third quarter of the year, and exactly one-half of them during September. The number of patients removed to the isolation hospital was 166, which compares favourably with the number removed in the previous year (388). From the rural district there were, in addition, 30 patients admitted. It is satisfactory to note that at no time during the year were the resources of the hospital overtaxed. Disinfection of all infected dwellings and articles was carried out as far as possible, sulphur-dioxide being used for fumigating infected rooms. Dr. Horne strongly urges that disinfection by formalin would be more efficient, and he thinks there would be no difficulty in disinfecting with formalin if there was a slight increase in the inspectorial staff. He also suggests that arrangements should be made for two capable women to act as charwomen and thoroughly cleanse any dwelling when circumstances render such a proceeding desirable.

General Sanitation.

No reference is made in the report to the water supply of the district, but there was apparently no cause for complaint during the year. Of the 269 new houses certified as fit for habitation, a record for any one year, one-third were situated in the South-West Ward, while building operations were also active in the North-West and Central Wards. It is satisfactory to note that the houses are of a good class, that the water-carriage system for new houses is fast becoming universal, and that in the majority of new houses baths were provided.

Five houses were closed as unfit for habitation and 4 of these were subsequently demolished.

During the year 370 house to house inspections were made, but Dr. Horne thinks "that it would be advantageous, "if still more were done in this direction, because I regard the "systematic inspection of smaller houses, and premises in the "more congested localities in a district, as perhaps the most "useful work which can engage the attention of inspectors of "nuisances." Dr. Horne suggests that the Council would do well to consider the question of increasing the inspectorial staff.

The slaughter-houses, common lodging-houses, milk-shops, and offensive trades were the subjects of frequent inspection, while a detailed sanitary survey of certain elementary school premises was made and several of the recommendations arising therefrom were adopted and others are under consideration. The report speaks highly of the work accomplished by the lady inspector.

During the year 145 open privies or middens were converted into water-closets, but it is pointed out that "if the "substitution of water-closets for common privies and pan "privies continues to progress in the borough at the same rate "as it has done during the past year, it will be more than half "a century before the change to universal water carriage is "completed ;" and Dr. Horne also says "my belief is that the "substitution of water-closets for midden-privies throughout "the borough would result in greater benefit to the public "health than can ensue from any other single measure that "can reasonably be anticipated." Nightsoil is removed through 252 houses in the borough and of these 151 have moveable receptacles. Much of the borough refuse is dealt with in the destructor. The sewerage and drainage of the town appear to be satisfactory and the sewers are periodically flushed. The report contains a tabulated statement of the new sewers, sewers relaid, and manholes and flushing shafts provided. There are still 30 registered or private slaughter-houses in the borough and the report again points out the advantages which would accrue from the provision of a public slaughter-house. Many of the existing slaughter-houses are structurally unsatisfactory, while the accommodation provided in them is inadequate.

Under the Factory and Workshop Act 75 visits of inspection were paid to factories and 248 to workshops. Defects to the number of 89 were discovered, arising from want of cleanliness or ventilation, overcrowding, or insufficient or defective sanitary accommodation. Fifteen written notices were served and 67 of the defects were remedied. There were 8 inspections of outworkers' premises. There are 58 factories in the borough and 332 workshops on the register, of which 61 are bakehouses and 69 workplaces. Five matters were notified to H.M. Inspector of Factories, while 29 matters were referred by H.M. Inspector to the borough Health Department.

Attached to the report is a long report by the Inspector of Nuisances, which shows that the nuisances abated and sanitary improvements effected numbered 3,861, that 78 samples of food were taken under the Food and Drugs Act, 64 of which were found to be genuine and 12 of them adulterated. Legal proceedings were taken in one case of adulteration, but the adulteration was not sufficient to warrant legal proceedings in the others, though the respective offenders were warned. The inspector again draws attention to the nuisance arising in the district from the keeping of swine in unsuitable places.

Sanitary Requirements.

1. The more rapid abolition of insanitary midden-privies ;
2. The provision of a public slaughter-house ;
3. An increase in the inspectorial staff ;
4. And the keeping of swine in unsuitable places, are questions that appear to require the attention of the Corporation.

URBAN DISTRICTS.

ANNFIELD PLAIN.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area in Acres, 3,489. Estimated Population, 1906, 14,600.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

36·5

16·5

2·87

181

Phthisis death-rate, 0·82.

Respiratory diseases death-rate, 2·3.

There was a slight rise both in the birth-rate and death-rate, while the zymotic and infant death-rates both exceeded the county rates. The infant mortality was again excessive, but Dr. Benson points out that 39 of the 97 deaths under one year of age were those of infants who were defective almost from birth, and could never have become useful members of the community. The district Registrar distributes leaflets on the feeding and management of infants to parents registering births.

Infectious Diseases.

Compared with 1905 there was an increase of 34 in the notifications, the total number being 145, including 96 of scarlet fever, 18 of diphtheria, 17 of enteric fever, and 2 of puerperal fever. The diphtheria cases were sporadic, and scarlet fever was most prevalent during the latter half of the year. Of the enteric fever cases 7 occurred in one house, the primary case having been overlooked, and 3 others acquired the infection from visiting at infected houses. The origin of the other cases was not traceable, but "the disease paid no respect to locality or good sanitation." Measles was prevalent in January, causing 5 deaths, and there were 6 deaths from whooping cough, while diarrhoea was fatally prevalent among infants, and was responsible for 23 deaths. There were no cases of small-pox, and the joint small-pox hospital was used as a sanatorium for consumptive patients. In the ordinary infectious diseases hospital at Tanfield 59 cases of infectious disease were isolated. Infected premises were disinfected on the recovery or removal to hospital of the patient, but the method of disinfection adopted is not stated.

General Sanitation.

The chief points to be noted are that the water supply was abundant and satisfactory; that 44 new houses (31 self-contained) with cement yards and modern ashclosets were erected; that 4 dwellings were permanently closed and 1 made habitable as a result of action under the Housing of the Working Classes Act, 1890; that there is a scarcity of house accommodation, and consequent overcrowding and that there are a number of old houses in the district bordering on decay and barely habitable; that scavenging is performed satisfactorily by contract and that the sites for the deposit of refuse do not cause nuisance; and that the common lodging-houses and the cowsheds have received careful attention. Proceedings were successfully taken to prevent the establishment of an offensive fat scraping business in unsuitable premises. Sewage disposal works are still required for South Medomsley but no reference is made in the report as to the efficiency of the other disposal works in the district. The result of the inspection of 9 factories and 18 workshops is stated to have been satisfactory, and no notices were served or proceedings taken under the Factory and Workshop Act.

Sanitary Requirements.

1. Improved house accommodation.
2. Sewage disposal works for the South Medomsley district.

BARNARD CASTLE.

ALFRED H. SEVIER, M.B., Medical Officer of Health.

Area to Acres, 560.		Estimated Population, 1906, 4,660.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
24·0	15·2	1·5	92
Phthisis death-rate, 1·28.		Respiratory diseases death-rate, 1·7.	

There was a slight increase in the birth, total death, and zymotic rates, but the infant mortality-rate was lower than in the previous year.

Infectious Diseases.

Only five notifications were received during the whole year, one case each of small-pox, diphtheria, scarlet fever, enteric fever, and erysipelas being reported. The case of small-pox occurred in November, the infection probably having been conveyed through some clothing purchased by the patient from an unknown person travelling through the town. Prompt isolation in hospital of the patient and 3 contacts and careful disinfection were effected. The case of enteric fever contracted the disease in Bishop Auckland and died. The origin of the diphtheria case could not be traced, while the case of scarlet fever occurred in the Militia Barracks and was isolated in the district isolation hospital. Whooping-cough and influenza were prevalent in the early part of the year, and there was also a short epidemic of diarrhoea and chicken-pox among children during August and September. Disinfection of infected dwellings is reported to have been satisfactory, but improved accommodation for small-pox cases is required.

General Sanitation.

The water supply "has continued to be good." Additional houses have been built by private enterprise, but small workmen's cottages at moderate rentals are still much needed, especially as there is a lot of old property in the town which will have to be condemned. Dr. Sevier had occasion to condemn several tenements during the year owing to want of repair and overcrowding. The drainage, sewerage, and the sewage disposal works are reported on satisfactorily, but the report states that the latter will have to be enlarged to keep pace with the growth of the town. A careful inspection of all dairies, cowsheds, and milkshops was made by the M.O.H. and inspector, and their condition was found to be fairly satisfactory, though a few structural alterations and improvements in lighting and ventilation were required. New regulations with respect to dairies and cowsheds were adopted during the year by the District Council. A regular and complete inspection of all bakehouses, workshops, and factories is reported to have

been made, and the conditions as to lighting, ventilation, and drainage were generally found to be satisfactory, so that no special action by the U.D.C. was required. The official statistical table relative to action taken under the Factory and Workshop Act is not attached to the report. During the year the Inspector of Nuisances dealt with 99 nuisances, all but two of which were remedied.

Sanitary Requirements.

1. Hospital accommodation for small-pox cases.
2. Additional house accommodation for the working classes, and the closing of dwellings which are not fit for habitation.

BENFIELDSIDE.

WM. ALLEN, M.D., Medical Officer of Health.

Area in Acres, 1,525. Estimated Population, 1906, 7,650.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

30·3

15·5

2·2

176

Phthisis death-rate, 1·04.

Respiratory diseases death-rate, 2·4.

The chief vital statistics compare favourably with those of previous years, except the infant mortality-rate which is very high. The total death-rate is the lowest for ten years. Dr. Allen points out that much of the infant mortality is caused by preventable diseases and he says "the infant mortality might be reduced 100 per cent., if mothers and nurses were taught, as girls at school, a few simple lessons in infantile dietetics and hygiene."

Infectious Diseases.

The notified cases increased from 51 in 1905 to 68 last year and the most prevalent disease was scarlet fever (33 cases, none of which proved fatal). None of the 6 diphtheria cases could be connected with insanitary conditions, but of the 11 cases of enteric fever (2 fatal) some of them were associated with defective drainage and insanitary conveniences. In some cases evaporation of the water from gully traps near dwellings converted such gullies into sewer ventilators. Influenza was

prevalent towards the end of the year causing 2 deaths, while whooping cough was fatal to the same extent. There were no deaths from measles but diarrhœa was very fatal among children and altogether was responsible for 11 deaths. During the year 16 patients were removed to the isolation hospital and the clothing and infected premises of patients were disinfected. The importance of the disinfection of "contacts" with infected persons is again urged in the report.

General Sanitation.

There was a sufficiency of water from the Weardale and Consett Water Company during the year. New houses to the number of 48 were certified for occupation, and it is satisfactory to note they contained three or more rooms. The report states that there are a large number of old insanitary houses in the district, 42 of which were condemned during the year by Dr. Allen, who says that a good many of them ought to be razed to the ground forthwith. The situation of these houses might with advantage have been given in the report. The scavenging of the district was unsatisfactory but the District Council have now decided to undertake the scavenging themselves. During the year 7 middens were converted into ashclosets or W.C's. It is proposed to enlarge and improve the sewage disposal works which are not capable of treating the sewage at all times. The report deals briefly with the condition of the slaughter-houses, dairies and cowsheds, and common lodging-houses, which appear to have received attention during the year. Suggestions as to a public slaughter-house and as to the registration and inspection of dairies are made in the report. There are 3 factories in the district (one having been closed during the year) and 30 workshops. These were the subject of 92 inspections but no notices were served and "in no case has there been any reason for complaint." There are no outworkers. One underground bakery has been licensed. Inspections of the district were made by the M. O. H. and Inspector, and the latter served 62 informal notices during the year, all of which are reported to have been abated. Some of the sanitary conveniences were found to be in a very filthy condition.

Sanitary Requirements.

1. Prompt action under the Housing of the Working Classes' Acts respecting houses unfit for habitation.
2. The abolition of insanitary midden privies.
3. The substitution of good sanitary pipe sewers for the old stone sewers.
4. The improvement of the sewage disposal works.

BISHOP AUCKLAND.

T. A. McCULLAGH, M.R.C.S., Medical Officer of Health.

Area in Acres, 691.		Estimated Population, 1906, 12,863.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
31·7	19·4	2·1	149
Phthisis death-rate, 1·31.		Respiratory diseases death-rate, 2·9.	

All the chief mortality statistics are higher than in 1905. The high mortality from diarrhoea was partly responsible for the increased zymotic and infant death-rates. Dr. McCullagh in remarking on the large number of deaths from tuberculosis condemns the filthy practise of promiscuous spitting as a source of danger to others.

Infectious Diseases.

There was a decrease in the notified cases from 132 in 1905 to 82, and the most prevalent diseases were enteric (and continued) fever (39) and diphtheria (24). The cases of enteric fever were notified during each month of the year except May and July, but most of them occurred during October and November (17). The cases were scattered over the town, and they were confined mostly to houses with privies and ashpits. "Disinfection was carried out in every " case, but it is never possible to be sure that privies and ash- " pits into which typhoid infected discharges have been thrown " are successfully disinfected. The ground around these " becomes infected with typhoid germs, and under favourable " conditions they may become active after a long period of " time." Seven of the cases proved fatal. The cause of the

cases of diphtheria is not discussed, but "disinfection was "always most carefully carried out." There were only 3 cases of scarlet fever during the year, none of them fatal, and it is pointed out that the disease of late years has become much milder in type and is rarely fatal, if there is proper attention. There was one death from measles, 2 from whooping cough, and 15 from diarrhœa, all the diarrhœa deaths with one exception occurring among children under one year of age, and mostly, in Dr. McCullagh's opinion, caused by improper feeding. During the year 13 cases were treated in the town isolation hospital, with the nursing and general management of which Dr. McCullagh expresses himself satisfied. The question of providing a horse ambulance for the removal of patients is receiving the consideration of the U.D.C.

General Sanitation.

The water supply from the river Wear was ample during the year. A third filter bed is approaching completion, and improvements have been made in the pumping plant. As to the quality of the water no reference is made. The scavenging of the streets and cleansing of conveniences are reported on satisfactorily, but the practice of householders throwing refuse on to the back streets is condemned, as is also that of firing chimneys, for the prevention of which a bye-law appears to be needed to enable the police to take action. The sanitary work accomplished includes the closing of one and the making habitable of another house, the abolition of privy-ashpits in favour of 19 ashclosets and 9 W.C's, and the prevention of overcrowding in five instances. During the year 71 formal notices were served respecting nuisances, 45 of which were abated, while a consignment of rabbits was condemned as unfit for food, and 41 houses disinfected after infectious disease. From the tabulated statement at the end of the report it would appear that there are no factories in the district, but that the 46 workshops on the register each received one inspection during the year, and that 3 defects which were the subject of written notice were remedied. No reference is made in the

report as to drainage, sewerage, slaughter-houses and common lodging-houses, while as to cowsheds the bald statement is made that "they have been kept in good condition."

Sanitary Requirements.

1. The abolition of insanitary ashpit-privies.
2. A proper ambulance for the removal of patients to the isolation hospital.
3. Bye-laws for the prevention of the practises of fouling the back streets and of the firing of house chimneys appear to be desirable.

BLAYDON.

H. MORRISON, M.B , B.S., B.Hy., Medical Officer of Health.

Area in Acres, 9,323.

Estimated Population, 1906, 22,700.

Birth-rate.

Death-rate.

Zymotic death-rate.

Infant mortality-rate.

39·4

17·9

2·3

158

Phthisis death-rate, 1·2.

Respiratory diseases death-rate, 1·6.

There was a slight increase in the total death-rate, but the infant death-rate showed a satisfactory decline. The deaths from phthisis declined from 30 to 26, "but I think this decrease "might be still greater if some of the steps mentioned in my "report on the subject earlier in the year could be carried out." The report deals at some length with the infant mortality question and its causes, and rules on infant feeding and management, based on the Report on Physical Deterioration, are set forth.

Infectious Diseases.

Of the 225 notifications, scarlet fever accounted for 114, diphtheria for 60, enteric fever for 24, and small-pox for 2. Scarlet fever was prevalent during the early part of the year and caused 4 deaths. The importance of parents reporting any suspicious rash accompanied by vomiting or sore throat is urged. Many of the cases notified were in the peeling stage. The cases of diphtheria occurred mostly in the western part of the district, and were associated with defective scavenging. Of

the 24 cases of enteric fever, 8 were in Winlaton Ward alone, “practically the same proportion as in 1905, showing the great “need of the more drastic steps which have been and will have “to be taken to abate serious nuisances.” A case of small-pox occurred in Blaydon in May, and was at once removed to hospital, where his mother who was nursing him contracted the infection. Both cases were of a mild type, and no other occurred. During the year 74 cases from the district were isolated in the ordinary hospital for infectious diseases, as well as some cases from the Whickham and Ryton U.D’s, and the only deaths occurring therein were two from enteric fever. Whooping cough was responsible for 10 deaths and measles for 2 deaths, these diseases being most prevalent towards the end of the year. There were 30 deaths from diarrhoea, but no special reference is made to this large number of deaths in the report, nor is their distribution as to localities given. During the year 5 lots of infectious bedding were destroyed, and “278 lots of bedding, premises, &c,” are reported to have been disinfected.

General Sanitation.

No reference is made in the report to the water supply of the district, although it is obtained from several different sources. Under the Housing of the Working Classes Act, 1890, 3 notices were served in respect of 10 houses, and the report states that 2 are being proceeded with, and 8 are lying in abeyance until the return of the owner. At Bleach Green 18 cottages have been repaired, 5 pulled down, and one closed. During the year 14 old privy-middens were removed, and W.C’s. or ashclosets substituted. The scavenging was fairly well done except at Rowland’s Gill and Chopwell, where for a time the contractors neglected their work. Disinfecting powder is used after the cleansing of the ashpits. The nuisances dealt with included 8 cases of overcrowding, many foul and defective houses, deposits of refuse, defective drainage and yard paving, &c. The report specially urges on the Health Committee the need for prompt attention to the overflow of sewage along the

road near Messrs. Priestman's new houses at Winlaton, and states that the defect has many times been reported, and will probably cause typhoid fever from water contamination. In four instances samples of water were analysed, and one of them was condemned. The report very briefly refers to the condition of the dairies, cowsheds, slaughter-houses and bake-houses, and all those structures are stated to be kept in good order. Night and day visits were paid to the lodging-houses, and 12 notices were served on the keepers of such houses owing to want of cleanliness and ventilation.

Dr. Morrison states that the sanitary condition of the district is better than it was in 1905, there being fewer dilapidated and insanitary dwellings and less overcrowding. No reference is made in the report as to action taken under the Factory and Workshop Act.

Sanitary Requirements.

The remedying of the nuisance from sewage overflow near Winlaton.

The report might with advantage deal with such matters as water supply and factories and workshops, while more detailed information is desirable on other matters of sanitary import to the district.

BRANDON AND BYSHOTTLES.

HENRY SMITH, M.D., Medical Officer of Health.

Area in Acres, 6,669. Estimated Population, 1906, 17,230.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

32·9

17·5

3·7

197

Phthisis death-rate, 1·10.

Respiratory diseases death-rate, 3·4.

Compared with 1905, the chief variations in the vital statistics are a decrease in the birth-rate of 2·3 per 1,000 population, and in the total death-rate of 0·9 per 1,000, while there was an increase of 1·2 in the zymotic death-rate. The infant mortality-rate and the death-rate from acute respiratory diseases continued very high.

Infectious Diseases.

The notified cases numbered 125, including 48 of enteric fever, 40 of scarlet fever, and 27 of diphtheria. In the previous year 153 cases were notified, which included 100 cases of enteric fever. The etiology of the cases of the different diseases is not discussed, but in previous reports the objectionable ashpit-privies and open channels at Brandon Colliery, where the disease has been very prevalent, were blamed for the prevalence of enteric fever. Measles (15 deaths), whooping cough (10) and diarrhœa (24) all caused a high mortality, but no reference is made to these diseases in the body of the report. During the year 20 cases of enteric fever and 17 of scarlet fever were treated in the isolation hospital, for which two extra nurses were engaged in September, while in October two more nurses were employed to attend patients who could not be removed to hospital. The prevalence of enteric fever from June to October was the subject of a special report to the Local Government Board. From the Inspector's report it appears that 97 houses were disinfected on account of infectious disease prevalence, while 38 articles were disinfected by steam. During the year an order made by the County Council and confirmed by the Local Government Board, after an appeal by the District Councils affected, constituted the Brandon U.D. and the Durham R.D. a joint hospital district for small-pox purposes.

General Sanitation.

The water supply of the district is reported to be good and continuous. The chief sanitary improvements effected were the relaying of the sewers in Brandon Village, in parts of Langley Moor and the Boyne, at Whitwell Terrace, and at Alum Waters; the provision of new sewage disposal works (septic tanks and continuous filtration) at West Sleetburn; the application of the Private Streets Works Act to Whitwell Terrace; the construction of 200 new ashclosets at Brandon Colliery in place of ashpit-privies; and the provision of house drainage for Durham and West Streets, Brandon Colliery.

Statutory notices were served on the owners of 300 houses at the Boyne for the abolition of the ashpit-privies in favour of ashclosets, and for the cementing of the back yards, and the majority of the owners have expressed themselves as willing to do the work.

During the year 31 cowsheds, accommodating 182 cows, were inspected, "and they were in their usual condition, and "require no special comment." One cow suffering from tubercle was discovered and destroyed, and it is suggested that all milch cows should be periodically examined by a veterinary surgeon appointed for the purpose.

The ashpit scavenging, performed by contract, was fairly satisfactory, though difficulty was experienced with some of the contractors. Under the Factory and Workshop Act 34 inspections were made and 2 defects detected, which were remedied after written notice had been given. There are 3 factories and 23 workshops in the district. There is only one bakehouse on the register, and no outworkers are known. There are no common lodging-houses, no tenemented property, and no offensive trades in the district. During the year 445 nuisances were abated after notice.

Sanitary Requirements.

1. The abolition of all insanitary ashpit-privies.
2. The provision of proper drains and sewers throughout the district.
3. The recommendation in the report as to the appointment of a veterinary surgeon to periodically inspect the milch cows deserves attention.

CONSETT.

A. D. M. MACINTYRE, M.B., Medical Officer of Health

Area in Acres, 1,005.		Estimated Population, 1906, 10,601.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
28·8	17·0	1·03	156
Phthisis death-rate, 1·13.		Respiratory diseases death-rate, 4·62.	

The birth-rate was very low, while the total death-rate was the lowest for 12 years. During the first half of the year there was not a single death from zymotic diseases, and none of the notifiable diseases contributed to the death-rate. The lowest death-rate occurred during the third quarter (15·0), and the highest during the first quarter of the year (19·2). Dr. Macintyre strongly urges the provision of sanatoria for consumptives, and remarks on the good results which have followed the treatment in the Stanhope Sanatorium of cases from this district. The joint small-pox hospital is being used for the treatment of advanced phthisis cases with good results, but Dr. Macintyre emphasizes the necessity of a liberal diet as well as fresh air and sunshine. The report deals at length with the deaths among infants, and shows that many are preventable, and the opinion is expressed that the old badly lighted, overcrowded two-room cottages have much to do with the high infant death-rate.

Infectious Diseases.

There were only 38 notifications, as compared with 61 in 1905, and the most prevalent disease was scarlet fever with 28 cases, its cause being generally attributed to school infection. It is satisfactory to note that not a single case of enteric fever was notified during the year, and only one of diphtheria, and not a single death resulted from any of the notifiable diseases. Epidemic diarrhoea was the only fatal zymotic disease, and it was responsible for 11 deaths, 9 of them being among infants under one year of age.

General Sanitation.

The water supply is generally satisfactory, but in the autumn the water had a somewhat turbid appearance owing to the presence of peaty matter resulting from the shortage of water in the reservoir. On this point Dr. Macintyre says "the Hisehope reservoir being now completed, we are assured "by the Water Company of a copious supply in all times "coming."

Fifty-nine new houses were occupied during the year, all of them containing 3 or more rooms, while 66 others were in course of erection. The report states that the cottage reconstruction scheme of the Consett Iron Company has come to a sudden stop, and that a large number of houses known as the "Company Rows" are still occupied, though "these houses "have been commented upon in annual reports for over 30 "years, and rightly described as out of date and uninhabitable. "I suggest that your Council take steps to urge the Consett "Iron Company to rebuild these cottages, for nothing short of "this will make them fit for habitation." Action by the District Council is also urged with respect to back-to-back and otherwise insanitary houses in John Street and Pit Street.

The scavenging and removal of excrement and house refuse continue to be satisfactorily performed by the District Council, and the main sewage disposal works are also stated to have been efficient, but the Crookhall sewerage scheme for the south-east portion of the district, although in hand, had not been completed at the end of the year. A successful prosecution was instituted during the year respecting some insanitary midden-privies in a common enclosed yard, and the Justices made an order for their abolition. The report states that when the District Council took over the scavenging of the district there were over 50 inaccessible midden-privies, but that this number has now been reduced to 2. The report refers satisfactorily to the condition of the common lodging-houses, which provide accommodation for 140 lodgers, and the dairies, cowsheds, milkshops, and slaughter-houses are also stated to have been regularly inspected, and to be kept in good order, though one insanitary cowbyre was rebuilt.

There are 77 workshops on the register, and 24 inspections appear to have been made, but no sanitary defects were detected. No homework is carried on in the district. Under the Public Health Acts, 121 informal and 5 formal notices were served for the abatement of nuisances, and, with

one exception, compliance was made with all of them. Details of improvements in sewerage and road-making are given in the report.

Sanitary Requirements

Action under the Housing of the Working Classes Act respecting the insanitary houses in Company Rows, John Street, and Pit Street.

CROOK.

A. MACKAY, M.D., Medical Officer of Health.

Area in Acres, 4,056.		Estimated Population, 1906, 11,500.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
29·6	16·7	2·2	161

Phthisis death-rate, 1·82 Respiratory diseases death-rate, 2·86.

There was a very marked decline in the birth-rate, but the total death-rate was fairly satisfactory. There was, however, a rise in the zymotic, infant, and phthisis death-rates, the last-named being especially high. Dr. Mackay deals at some length with the subject of infant mortality, the high rate of which he thinks is chiefly the result of improper feeding, parental ignorance, and insanitary surroundings.

Respecting tuberculosis, he points out that this disease caused more deaths than all the zymotic diseases put together, and he urges the value of sanatorium treatment in the early stages of phthisis, and that the District Council should subscribe for a bed in the Stanhope Sanatorium.

Infectious Diseases.

The notified cases declined from 156 in 1905 to 72, and included 26 of scarlet fever, 21 of diphtheria, and 11 of enteric fever. The scarlet fever cases were of a mild type, and none of them proved fatal. There were 3 fatal cases of diphtheria, and Dr. Mackay holds that the spread of this disease is the result of direct personal infection, rather than of insanitary conditions. He states that there was considerable opposition to the removal of cases of this disease to hospital. Enteric fever proved fatal in 4 instances, and the report states that several of them were probably the result of nuisances

arising from midden-privies, while in two instances the disease was imported, and Dr. Mackay says "the dry summer and "autumn were favourable to the development of typhoid or "enteric fever, and I think that Crook was fortunate in its "number, considering that in some neighbouring villages the "disease was epidemic."

It is satisfactory to note that 35 cases of diphtheria, scarlet fever, and enteric fever were treated in the isolation hospital, equal to 60 per cent. of those cases notified, and the hospital is stated to be well staffed and in good order.

During the year 61 houses were disinfected by sulphur or formalin. There were no deaths from either measles or whooping-cough, but diarrhoea was fatal in 18 cases, the disease being very prevalent during August and September.

General Sanitation.

The water supply is stated to be from the Weardale and Consett Water Company, to be ample, continuous, and of excellent quality. Dr. Mackay again calls attention to the nuisance inseparable from midden-privies, of which there are still a large number in Crook and in the colliery villages, and he says "I have repeatedly pointed out to the Council that "these foul ashpits were grossly insanitary owing to evapora- "tion and leakage into yards, and were a fertile source of the "ordinary filth diseases. A few have been replaced during the "year, but the work proceeds very slowly."

The scavenging and removal of refuse are performed by contract, but the report urges the importance of the close supervision by the Surveyor of the work, especially during the summer months, and the opinion is expressed that night scavenging is desirable during the months of July, August, and September.

Under the Housing of the Working Classes Act, one house was closed as the result of legal proceedings, while one colliery company is reconstructing 50 old houses, and 20 of them were completed during the year. At Woodfield Colliery there are some houses which have a low, unceiled attic entered

by an almost perpendicular ladder, and scarcely fit to be used as a bedroom.

Dr. Mackay points out that there are still some old segment sewers, and that none of them were replaced by proper pipe sewers during 1906.

The cowsheds are stated to have been much improved, but reference is made to an objectionable cowshed in Nelson Street, which was also condemned by the County Medical Officer. The report states that the slaughter-houses, factories, and workshops have been inspected and found to be in a satisfactory condition.

The report gives details of sanitary inspections made, and of considerable improvements effected in drainage and sewerage, making of back streets, and of ashclosets substituted for midden-privies. In the Inspector's department 237 informal and 40 formal notices were served, which resulted in the abatement of 261 nuisances. Twenty-one defective yards were cemented.

Sanitary Requirements.

The following are mentioned :—

1. The abolition of all midden-privies with as little delay as possible.
2. The making of the remainder of the back streets.
3. The channelling and cementing at Grahamsley and Gladstone Terrace, Sunnyside.
4. The more careful supervision of the scavenging.

FELLING.

WM. E. PEACOCK, M.D., B.Hy., Medical Officer of Health.

Area in Acres, 2,684.		Estimated Population, 1906, 25,600.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34·5	16·1	1·2	138
Phthisis death-rate, 1·87.		Respiratory diseases death-rate, 2·18.	

The total death-rate was the lowest ever recorded, and the same remark probably applies to the infant mortality-rate, which was very low for such a district. In the three sub-

districts of Felling, Windy Nook, and Heworth, the total death-rate was 14·4, 15·5, and 16·3 per 1,000 population respectively. Dr. Peacock thinks that even in industrial districts the infant mortality-rate might be reduced to 100, and in connection with this subject he makes some valuable remarks on infant feeding and the importance of the purity of the milk supply. He points out how important it is that houses should be provided with proper places for keeping food, and specially condemns the use of sweetened, condensed milks, and especially those which have been deprived of their fat. He rightly objects also to the use of preservatives in milk. He also recommends the supply of sterilized milk in certain cases by sanitary authorities, and also the provision of systematic instruction for mothers and elder girls in the feeding and management of children.

As regards the prevention of phthisis, Dr. Peacock recommends early bacteriological examination of the sputum in suspected cases, and also compulsory notification of the disease, which would permit of preventive measures being adopted by the sanitary authority. The risks to human beings from the consumption of milk from tuberculous cows are also set forth in the report.

Infectious Diseases.

Only 179 cases were notified, as compared with 397 in the previous year. No case of small-pox was reported, although 86 occurred in 1905, the most prevalent diseases being scarlet fever, 95 cases; diphtheria, 40; erysipelas, 27; and enteric fever, 13. The cases of scarlet fever were generally of a mild type, and 65 fewer cases were notified than in the previous year. Diphtheria was more prevalent than in 1905, and nearly one-third of the cases proved fatal. Dr. Peacock points out that this mortality would have been greatly reduced had diphtheria anti-toxin been used, and he strongly recommends the District Council to follow the example of other sanitary authorities, and to provide it for the treatment of patients too poor to pay for it. Nearly two-thirds of the cases (26) occurred in the Heworth township.

None of the cases of enteric fever proved fatal, and several of the cases contracted the disease outside the district. Of the four notified cases of puerperal fever, 2 of them in the practice of midwives, 2 proved fatal, but it is pointed out in the report that the periodical inspection of the midwives now undertaken will result in improvement in their personal habits. No cases were treated in the isolation hospital during the year, but "the tenders for the complete furnishing and other fittings for the new hospital erected at Windy Nook are now concluded, and the hospital should be ready for use early in the year." Dr. Peacock sets forth very lucidly the advantages to be derived from hospital isolation. All houses in which cases of infectious disease occurred during the year were inspected, and the necessary precautions, short of removing the patients to hospital, appear to have been taken. There were 15 deaths from diarrhœa, and 2 each from measles and whooping-cough.

General Sanitation.

During the year 48 insanitary houses were inspected, of which 7 were ultimately closed, while the others were repaired and made habitable. In High Street, a large block of old tenemented property was demolished, and modern ashpits are being erected on the site. The cowsheds and dairies were visited periodically, and their general state was satisfactory, 'though there is evidently a laxity in regard to cleanliness on the part of some cowkeepers, as evidenced by the condition of the udders of certain cows noticed during my inspection,' and Dr. Peacock recommends that milk producers and purveyors should only be licensed annually, their licenses being dependent on a good previous record as to the quality of their milk supply, the suitability of their premises, and their general cleanliness.

The report deals at some length with slaughter-houses, and only 7 of the 20 in the district are registered, and a number of them are unsatisfactory. The provision of a public slaughter-house is strongly urged, the objections to private slaughter-houses and the advantages of a public abattoir being clearly

set forth in the report. The quality of the water supply and the condition of the public bakehouses are reported as being satisfactory. Under the Factory and Workshop Act, 65 inspections were made, and 3 defects which were detected were subsequently remedied. There are 44 workshops, 11 workplaces, and 10 factories on the register. Only one outworker's premises is known. Under the Foods and Drugs Act, 15 samples were analysed, and one sample of milk and 2 of whisky were found to be adulterated. The vendor of the milk was successfully prosecuted, but a legal objection proved fatal to a prosecution in one of the whisky cases.

The scavenging of the district is now satisfactory, the work being undertaken by the District Council, while the new refuse destructor, which was opened in July, and which consists of 6 cells, and is capable of burning 75 tons of refuse per day, has worked very satisfactorily, and no nuisance results from its working.

In his general remarks Dr. Peacock refers to the marked improvement in the sanitary condition of Heworth Colliery and Wardley, to the fact that 64 middens were abolished during the year, while during the past three years over 400 of these objectionable structures have been removed, and he also calls attention to the objectionable practice of keeping hens and other animals in back-yards and about dwellings. Steps were taken as far as possible to remove the wooden erections erected for the housing of these animals in the vicinity of dwellings.

Appended to the report is a good report by the Inspector of Nuisances, from which it appears that 242 informal and 12 formal notices were served for the abatement of nuisances, while reference is also made by the Inspector to sanitary improvements effected to drainage, cowsheds, slaughter-houses, action under the Food and Drugs Act, and disinfection. The Inspector states as to the Housing of the Working Classes Act, 1890, that, including 35 dwellings being dealt with at the end of 1905, 57 houses were made habitable, 20 were closed by the owners, and 13 subsequently demolished.

Sanitary Requirements.

The following recommendations are made :—

1. The compulsory notification of phthisis.
2. The provision by the District Council of diphtheria anti-toxin for the treatment of diphtheria cases.
3. The erection of a public abattoir.
4. The annual licensing of milk producers and purveyors.

HEBBURN.

A. M. G. WALKER, L.R.C.P., Medical Officer of Health.

Area in Acres, 1,241.		Estimated Population, 1906, 23,336.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34·8	17·2	2·3	1·36
Phthisis death-rate, 1·19.		Respiratory diseases death-rate, 3·0.	

There was a rise in the birth-rate, and a considerable increase in the total and zymotic death-rates, but the infant mortality-rate was fairly satisfactory. The total death-rate was highest during the first quarter and lowest during the fourth quarter. Among the causes acting prejudicially on infant life, Dr. Walker mentions insanitary surroundings, overcrowding, improper feeding, and undue exposure of infants by negligent and ignorant mothers. The report again points out that the system of voluntary notification of phthisis in force in the district has not proved satisfactory, for although there were 28 deaths from phthisis, only 19 cases were notified. Compulsory notification of the disease is again urged by Dr. Walker, and the value of sanatorium treatment is also indicated. It is satisfactory to note that the workmen in the various yards continue to support the Stanhope Sanatorium, and patients who were treated there during the year have either been cured or greatly benefited.

Infectious Diseases.

The notified cases numbered 239, an increase of 34 as compared with the previous year, and these included 163 of

scarlet fever, 19 of phthisis, 14 of enteric fever, and 12 of diphtheria. No case of small-pox occurred during the year, but 6 reported contacts were kept under observation.

Scarlet fever was of a mild type, only 2 deaths occurring, and it is satisfactory to note that 119 of the cases were treated in the isolation hospital. One-half of the cases of enteric fever occurred in the New Town district, and all of them were associated with insanitary conditions. No definite cause for the cases of diphtheria could be assigned, though in some cases the sanitary surroundings were not altogether satisfactory. No suspicion was attached to the milk or water supplies. The majority of the cases of diphtheria and scarlet fever were isolated in hospital. There were 2 deaths from measles, 9 from whooping-cough, and 38 from diarrhœa, the last-named disease being much more fatal than in the previous year, when only 14 deaths occurred. Dr. Walker points out that it is usually "due to improper feeding on the part of negligent mothers, "insanitary surroundings, such as dirty houses, damp ill-paved "yards, choked and dirty sinks, overcrowding, and keeping of "fowls and animals in yards. Causes which can be readily "removed by education of the mother and proper supervision "of yards and houses."

During the summer, leaflets were distributed throughout the district giving advice as to the feeding and management of infants.

As in previous years, all notified cases were visited and the usual precautions taken as to efficient disinfection. All infected bedding is thoroughly disinfected by steam. During the last quarter of the year many of the elementary schools were closed owing to the prevalence of measles, whooping-cough and scarlet fever, and during the subsequent vacation the school buildings were thoroughly cleaned and disinfected. The school officials cordially co-operated with the Health Department in the prevention of infectious disease. The report again urges the District Council to employ a man permanently at the isolation hospital in connection with the disinfectors, ambulance, &c.

General Sanitation.

The water supply was satisfactory and, though very hard, was plentiful and of good quality. During the year 57 ashpits were abolished in favour of 73 ashclosets, but there are still 272 ashpit-privies in the district, 207 of which are at the Colliery. Steps are to be taken for the removal of all those that are insanitary within the next twelve months. The scavenging of the district is reported to have been satisfactorily performed, the refuse either having been removed to sea or deposited on tips. Negotiations have been in progress for the purchase of a site near the river which would either facilitate the removal of the refuse to sea, or might be used for the erection of a refuse destructor. The report deals at length with the insanitary condition of certain streets in the district owing largely to the bad habits of the inhabitants who require to be under constant supervision, and it is pointed out that such supervision is impossible with a single sanitary inspector, whose time is largely taken up with necessary work for the prevention of the spread of infectious disease. The necessity for frequent house-to-house inspection in such localities is strongly urged, and this can only be effected by the appointment of an additional inspector. The report deals at some length with the condition of the colliery houses in the district, and a resumé is given of action taken by the District Council in recent years respecting it. Suggestions are made in the report for further improvements in the dwellings and as to improved drainage and conveniences, and Dr. Walker adds "should all the above-mentioned alterations and repairs be thoroughly completed, then the houses might be allowed to exist for a little longer period under the circumstances, but perchance the Colliery Company might at a future date commence to rebuild and supply the miners with modern up-to-date dwellings, with sanitary conveniences all pertaining to health."

There are 6 licensed cowkeepers and 32 milk-sellers in the district, and their premises are stated to have been kept in a satisfactory state. Although the slaughter-houses are stated

to be satisfactory, a public slaughter-house is recommended. The only common lodging-house in the district is reported to have been well kept, but additional accommodation for the district is considered desirable. There are only 7 registered workshops in the district, and these are stated to have been periodically inspected and their condition found to be satisfactory. There are stated to be no homeworkers. The table as to the Factory and Workshop Act, required by the Home Office, is not included in the report.

The Inspector of Nuisances reports that 303 nuisances were abated as the result of the serving of 309 informal and 57 formal notices, and that 192 lots of bedding, 192 houses, and 10 schools were disinfected.

Sanitary Requirements.

The following are mentioned :—

1. Compulsory notification of phthisis.
2. An additional sanitary inspector.
3. A permanent workman to be employed at the Fever Hospital.
4. The erection of a quay and the purchasing of hoppers or the building of a destructor, so as to more easily dispose of the refuse.
5. Additional common lodging-house accommodation.
6. A public slaughter-house.
7. Public baths.

HETTON-LE-HOLE.

J. ADAMSON, M.D., Medical Officer of Health.

Area in Acres, 1,617. Estimated Population, 1906, 14,200.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

35·7

17·4

4·3

153

Phthisis death-rate, 1·26.

Respiratory diseases death-rate, 1·33.

With the exception of the respiratory diseases, all the above-mentioned mortality-rates compare very unsatisfactorily with those of the previous year. The zymotic death-rate was

especially high, owing to the excessive mortality from diarrhoea and measles. It is pointed out in the report that while the infant mortality among the legitimate births was only at the rate of 146 per 1,000 births registered, that among the illegitimate children was 381.

Infectious Diseases.

There were 159 notifications, or 31 more than in 1905, and scarlet fever (54 cases), diphtheria (49), and enteric and continued fevers (38) were all seriously prevalent during part of the year. The majority of the cases of diphtheria occurred in the Hetton Downs Ward, and respecting this disease Dr. Adamson says, "It is probable that the infection is spread by direct contact of a healthy child with one suffering from the disease. It is to be feared that many cases of sore throat in children, which may be thought very trifling, may be mild cases of diphtheria, of which no notice is taken, and thence those infected children mix freely at school and elsewhere with other children and spread the disease. These mild cases may, however, infect another child with a most virulent form of the disease and prove fatal." He also points out that there were as many deaths (8) as in the previous year, although there were 33 fewer cases. With 3 exceptions the whole of the cases of enteric fever occurred in the Hetton Downs Ward, and the outbreak, which began in September, was the subject of a special report, which is incorporated in the report under review. The water and milk supplies were exonerated from all blame, and it seemed likely that the epidemic was the result of infection spread abroad by one or more mild unrecognised cases. The majority of the cases were confined to a small area, and it is probable that infected material was spread about during the emptying of the sanitary conveniences, which operation is performed during the day time. Prompt steps were taken to prevent the spread of the disease, including the supply of closed pails to infected houses for the reception and disinfection of the excreta of the patients. There were 16 deaths from measles, all of which, with 2 exceptions, occurred among

children under 5 years of age, and it is probable that many of the deaths might have been avoided if more care had been taken of the patients. Diarrhœa was very fatal, causing 28 deaths, the hot summer, associated with polluted sub-soil and putrefactive changes in food, constituting conditions favourable to the development of the disease. During the year, 48 cases were removed to the isolation hospital, and Dr. Adamson used his personal influence in endeavouring to persuade the patients to accept hospital treatment.

General Sanitation.

Except at Easington Lane, where there was a restricted supply, to remedy which steps were being taken, the water supply during the year is reported to have been satisfactory. Generally speaking, there has been considerable improvement in the sanitary condition of the district during recent years, though "sometimes owners seem unwilling to do the repairs "necessary to maintain their property in good sanitary "condition and fit for human habitation, and, as in former "years, when houses are dirty with that distinctive odour "characteristic of what may be termed 'reeking humanity,' "the fault is with the tenant and not the owner."

The scavenging is let by contract, and was well performed. Satisfactory comment is also made on the drainage of the district, but complaints were received of offensive smells from certain manholes, which, in consequence, have been closed, and upcast ventilating shafts substituted. The sewage disposal works have been improved by the construction of a bacteria bed, which is reported to be acting efficiently. Most of the cowsheds are reported to be well kept, and regulations as to dairies and cowsheds were drawn up during the year and submitted to the Local Government Board for approval. Regular inspections of the slaughter-houses were made, but it is pointed out that efficient supervision of all the private slaughter-houses is practically impossible, and a public slaughter-house is again advocated. The table required by the Home Office as to action taken under the Factory and

Workshop Act is not included in the report, though the workshops are stated to have been inspected and many improvements made. Inspection of the 2 common lodging-houses was made during the year, and though not well adapted for the purpose, they were found to be fairly well kept.

Dr. Adamson again calls attention to the extremely bad condition of some of the streets in the district. Though some of them are stated to have been 10 to 15 years in use, no improvement has been made, and he says "I have earnestly called the attention of successive Councils to the great importance of this matter, and would now suggest, although it may be outside my duty to do so, that the Council should, at an early date, consider a scheme of street formation throughout the whole district." No reference is made to the work of the Sanitary Inspector in the report.

Sanitary Requirements.

1. The putting of the defective back streets in a proper state of repair.
2. A public slaughter-house.
3. The abolition of insanitary midden-privies.

HOUGHTON-LE-SPRING.

D. S. PARK, F.R.C.S., Medical Officer of Health.

Area in Acres, 1,551. Estimated Population, 1906, 8,950.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

35·5 20·4 2·7 172

Phthisis death-rate, 0·44. Respiratory diseases death-rate, 3·6.

There is a decline of over 5·1 per 1,000 in the birth-rate, while on the other hand there is a very unsatisfactory increase in the total and infant death-rates. Compared with 1905, there is a rise in the total death-rate of 4·4 per 1,000. The phthisis death-rate was again very low, but that from acute lung diseases increased by 33 per cent. Dr. Park recommends, with a view of reducing the infant death-rate, that special instruction be given in the upper standards of the girls' schools on the feeding, clothing, and general management of infants. Dr. Park thinks the population is underestimated.

Infectious Diseases.

The 60 notified cases, which numbered 16 less than the total reported in 1905, included 28 of scarlet fever, 10 of diphtheria, and 9 of enteric fever. Of these cases 9 were treated in hospital, and with respect to the others the precautionary measures adopted in previous years and set forth in previous annual reports were adopted. There still appears to be objections in some quarters to hospital isolation and to the disinfection, in the portable apparatus of the District Council, of infected articles. The cases of scarlet fever were of a rather more severe type than usual, and 2 of them proved fatal. The cases of diphtheria were not associated with insanitary conditions, though at times the street gullies in the vicinity of some of the cases became offensive. Nor, speaking generally, were sanitary defects in Dr. Park's opinion associated with the cases of enteric fever, one at least of which was imported into the district. Dr. Park considers the isolation hospital accommodation adequate for the district, and that suitable accommodation exists for diphtheria as well as for scarlet and enteric fevers. Measles caused 5 deaths, the disease being prevalent during the last quarter of the year, and in December the closing of the Colliery Row School was found to be necessary. Diarrhœa was of a severe type, and was fatally epidemic in August and September, causing 15 deaths, the chief causes being the intense summer heat and the proximity to dwellings of the sanitary conveniences. Dr. Park states that much of the nuisance arising from such conveniences might be obviated by a little care on the part of the tenants.

General Sanitation.

The water supply has not been altogether satisfactory owing to subsidences at the reservoir and throughout the district, which have been so serious that "one or other of the "reservoirs has been empty and under repair for months "together, the result being that at times only rather more than "half a day's supply is on hand, this, together with the frequent

“partial failure of the supply at the feeders, causes considerable anxiety to your Council and officers.” It is also stated that at times the high parts of the district, such as Newtown and Low Hillside, are without water, and that the water contains a large quantity of black oxide of manganese, which causes the pipes to fur up at times, with the result that an even pressure is almost impossible.

The scavenging is let by contract and on the whole is fairly well performed, but Dr. Park again complains that the contractors still persist in many instances in depositing the offensive refuse in the back streets, &c., instead of shovelling it direct from the conveniences into the carts. The sewers were frequently flushed, but owing to subsidences continuing the relaying of the sewers in the Colliery Row district has been postponed.

Dr. Park reports satisfactorily on the dairies and cow-sheds, and milk and meat supplies. The management of the common lodging-houses was not altogether satisfactory, and the defaulting proprietors were severely cautioned. Dr. Park thinks that more common lodging-houses might be licensed with advantage, as, at the week-ends, it is difficult under present conditions to avoid overcrowding. Improvements have been made in the streets on the Villa Estate; but the private streets on the Ironside Estate remain in a bad condition, though the Private Street Works Act has been adopted with the object of dealing with the defects.

Improvements in the sewage disposal works have been effected by the provision of a new detritus and liquifying tank, and the effluent during the year is stated to have been good.

The table required by the Home Office as to Factories and Workshops is omitted from the report, but the factories and workshops are reported to have been inspected and the defects which were noticed were remedied. There are no public bakehouses or dangerous trades in the district. Dr. Park refers to the large amount of voluntary work carried out by the Lambton Collieries Company in keeping in repair the large number of houses under their care.

From the Inspector's report it appears that 158 nuisances were abated, the same number of informal notices having been served for that purpose, that no action was taken under the Housing of the Working Classes Act, 1890, and that 6 lots of infected bedding and 6 houses and one school were disinfected.

Sanitary Requirements.

1. The unsatisfactory conditions connected with the water supply require the careful consideration of the District Council.

2. Having regard to the heavy mortality from diarrhœa, the abolition of insanitary conveniences near to dwellings should be insisted upon.

3. Additional common lodging-house accommodation.

4. The removal of offensive refuse direct from the conveniences to the scavengers' carts.

5. The proper repair of the private streets which are in a bad condition.

LEADGATE.

WM. ALLEN, M.D., Medical Officer of Health.

Area in Acres, 1,836.		Estimated Population, 1906, 4,700.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35·1	16·3	2·3	109
Phthisis death-rate, 0·85.		Respiratory diseases death-rate, 4·04	

The death-rate from acute respiratory diseases was high, but there was a satisfactory decline in all the other chief mortality statistics. The exposed position of the district is undoubtedly partly responsible for the high respiratory death-rate. Dr. Allen expresses the opinion that more care is taken of infant life than was formerly the case.

Infectious Diseases.

The notifications numbered 30, of which 17 were scarlet fever, 5 enteric fever, and 3 diphtheria. As regards the etiology of these diseases, the only reference made in the report is that none of the cases of enteric fever were associated

with insanitary conditions, and that they must, therefore, be regarded as sporadic. None of the cases were removed to hospital, but isolation of each patient in the dwelling, and the disinfection of infected houses and bedding, are stated to have been effected. There were 5 deaths from diarrhoea, and 2 from measles.

General Sanitation.

The water supply from the Weardale and Consett Water Company is stated to have been satisfactory. The Consett Iron Company have rebuilt and enlarged 24 of their houses, while 6 new houses were erected during the year. Ashclosets or waterclosets have been provided for each of these houses, the erection of privy-ashpits being no longer permitted in the district. Respecting the scavenging of the district, the report states that the removal of refuse is still undertaken by the owners or tenants, but whether satisfactorily or otherwise is not stated. The drains and sewage disposal works are reported to have acted well, and the cowsheds and slaughter-houses to have been kept in a satisfactory condition. Three notices were served for insanitary conditions, which were subsequently remedied. There are 2 factories and 9 workshops in the district, which appear to have been inspected, but no defects were found and no notices served. There are no home-workers.

Sanitary Requirements.

1. The District Council should themselves undertake the work of scavenging and refuse removal.
2. The report is typewritten, and might with advantage give more detailed information respecting infectious disease and many matters of sanitary importance.

RYTON.

JAMES W. SMITH, M.D., Medical Officer of Health.

Area in Acres, 5,169.		Estimated Population, 1906, 10,300.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35·1	12·6	2·2	132
Phthisis death-rate, 0·87.		Respiratory diseases death-rate, 1·55.	

The total death-rate is stated to be the lowest on record, and to be lower for the year under review than that of any other urban district in the County. The report points out that probably 50 per cent. of the deaths of infants were preventable, and Dr. Smith thinks the many efforts now being made to improve the conditions that tend to the preservation of infant life will in time be attended by good results, and he says "a better knowledge on the part of mothers and nurses of the "hygiene of infancy and childhood, more careful attention to "infant feeding, especially to the purity of milk, more sanitary "houses, more cleanliness in and around the dwelling, better "paved yards and streets, the substitution of ashclosets and "waterclosets for the old privy-middens, are all necessary "before we can expect to seriously diminish the death-rate of "infants and get the best results." Nearly one-half of the total deaths were those of children under 5 years of age.

With regard to tuberculosis, it is pointed out that one-seventh of the total mortality was caused by this disease, and the advantages resulting from the establishment of sanatoria for both early and more chronic cases are urged, while the opinion is expressed that compulsory notification is necessary if reliable information as to phthisis cases is to be obtained by the sanitary authority. Attention is drawn to the large number of deaths from cancer (11), and Dr. Smith thinks this disease is on the increase, though much of the apparent increase is the result of improved methods of diagnosis.

Infectious Diseases.

The number of cases notified was 128, a decrease of 82 when compared with the previous year. Scarlet fever (88 cases) was, however, rather more prevalent, especially in the west part of the district, but the type of the disease was milder, for with 22 more cases there were only 2 deaths, as compared with 5 in the previous year. There were 24 cases of diphtheria, their distribution both as to period and area being fairly general. The cases did not appear to be associated with insanitary conditions or to be the result of

school attendance. Dr. Smith thinks that with ordinary precautions the disease may be comparatively easily kept in check. He states that further experience continues to show the value of diphtheria anti-toxin in the treatment of the disease. There were only 5 cases of enteric fever notified, with one death, as compared with 90 cases and 9 deaths in the previous year, and they were all sporadic cases. No cases were removed to hospital during the year, but the district has been included in the Blaydon, Ryton, and Whickham Joint Hospital District, and hospital accommodation is now available for all kinds of infectious disease.

There were no deaths from measles, and only one from whooping cough, but diarrhœa was very fatal, causing 16 deaths, the long continued hot dry weather being given as the cause.

General Sanitation.

The water supply continued to be abundant and continuous, about three-quarters of it being obtained from the Newcastle and Gateshead Water Company, and the remainder from Chopwell Springs. The latter water is likely to be taken away by colliery operations, and steps are being taken with the view of the whole district being supplied by the Newcastle and Gateshead Water Company. The quantity supplied per head averages 11 gallons per day for all purposes.

The scavenging of the district was, towards the end of the year, taken in hand by the District Council, and it is hoped that it will be performed more efficiently than was formerly the case, when the work was left to the owners and tenants.

Improvements in sewerage have been carried out at Greenside, Crawcrook and Clara Vale, and the sewerage system for Woodside will, it is thought likely, be carried out during this year. The highways and public roads in the district are stated to be in excellent condition, but there is room for improvement in some of the private streets. The report as to the condition of the slaughter-houses and cowsheds is satisfactory. There are no factories in the district, and the few workshops

are small, clean, well ventilated and healthy, but “as there are
“no factories nor workshops in the strict sense of the word in
“the district, I am unable to fill up the new table sent out by
“the Local Government Board.”

The district is reported to have been constantly and systematically inspected during the year, and the Inspector of Nuisances reports that 49 nuisances were abated as the result of the service of 44 informal and 11 formal notices. Twenty-five of the notices were in respect of ashpits and privies.

Sanitary Requirements.

None specially mentioned, except the necessity for the improvement in the condition of some of the private streets, but Dr. Smith's remarks on the prevention of infant mortality and phthisis deserve attention.

SEAHAM HARBOUR.

L. GERALD DILLON, M.D., Medical Officer of Health.

Area in Acres, 1,101. Estimated Population, 1906, 11,200.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

39·1 18·5 2·2 187

Phthisis death-rate, 1·07. Respiratory diseases death-rate, 2·2.

The total death-rate, though the lowest recorded for the district, is still in excess of the county rate. Although the phthisis death-rate is not high, there was an enormous mortality from other forms of tuberculosis, 22 out of 26 being those of children under 5 years of age. Dr. Dillon specially refers to the very high infant death-rate, and to the fact that more than one-half of the total deaths of the district were those of infants under 2 years of age. The following remarks in his report deserve special attention:—“The causes of our high
“infant mortality-rate were improper food and insanitary surroundings, aggravated by the unusual hot weather, the
“temperature having reached 89·2 in the shade on
“September 1st.

“Handbills were issued by the Council warning the
“inhabitants of the danger of infantile diarrhoea, and urging
“them to keep their houses clean and well ventilated.

“ I regret to say in many cases this salutary advice was
 “ not acted upon, and infants were permitted to crawl over
 “ floors covered with filthy rag mats.

“ The bedding and bed clothes of these little sufferers
 “ are often indescribably dirty, and no doubt infected with the
 “ microbe of this deadly disease.

“ Many of the houses are ‘thorough cleaned’ only at
 “ Christmas. Houses should be cleaned regularly, especially in
 “ the summer and autumn months, when the microbe of
 “ diarrhoea is most virulent.

“ Infants generally are permitted to suck a ‘dumb teat,’
 “ which may produce deformity of the jaws, and is a dangerous
 “ source of infection, especially when picked off a dirty floor.

“ Notwithstanding my previous remarks on this subject,
 “ improper feeders are still in use.

“ Mothers whose children are breast-fed should pay
 “ special attention to personal cleanliness.

“ It is of vital importance that children should have
 “ pure milk. The system of selling milk from door to door is a
 “ bad one; it necessitates the frequent removal of the lid of the
 “ can, a dangerous proceeding in dusty streets, especially in
 “ hot weather.

“ I think the Council should establish a depôt for the
 “ sale of milk, and that cows and the farms from which the
 “ milk is supplied should be regularly inspected, special atten-
 “ tion being paid to the water supply.

“ Cows should not be milked in the byre, but in a
 “ specially constructed milking shed, with a cement floor. This
 “ shed should be divided into two compartments. In the first
 “ there should be a supply of pure water, and here the udders
 “ of the cows and the hands of the milkers should be washed.
 “ The second compartment should be used for milking only.

“ I consider it advisable to register the birth of every
 “ child within twenty-four hours. Then the registrar should
 “ notify a lady health inspector, whose duty it would be to visit
 “ the home and give directions as to the feeding and general
 “ management of the child.

“ If children were visited regularly during the first two
 “ years of their lives I feel sure it would have an excellent
 “ effect, as mothers who are ignorant but willing to learn would
 “ be educated, and careless ones urged to do their duty.

“ In order to stop this deplorable waste of infant life, a
 “ clean sanitary home is a primary necessity ; it should be seen
 “ to now, that the future mothers of the race are thoroughly
 “ instructed in the laws of domestic hygiene in the elementary
 ‘ schools.”

Infectious Diseases.

Only 13 cases were notified during the whole year, or only one-half of the total notified during 1906, and it is satisfactory to note that not a single death occurred from any of the notifiable diseases. There were 6 cases of scarlet fever, 3 of diphtheria, and 2 of enteric fever, one of the latter being a nurse in charge of the only other case of this disease. One case of enteric fever was treated in hospital. No case of small-pox was notified, but the hospital was kept in readiness.

General Sanitation.

The water supply was for the most part satisfactory, but during October and November analyses showed it to be receiving surface contamination, which the Water Company at once took steps to prevent by laying down a new main and sluice pipe from the reservoir. During the year 208 midden-privies were abolished in favour of 154 waterclosets and 54 ashclosets. During the past 5 years 669 insanitary middens have been removed, and there are now only 7 existing in the district, a very remarkable improvement. The scavenging is performed by the District Council in a satisfactory manner, but night scavenging has been discontinued. The refuse is used as manure or tipped into the sea. Other improvements reported are the paving, asphaltting, or cementing of 73 yards, the putting in order of 10 new streets, and the substitution of proper sanitary pipes for 3 old stone drains.

During the year 65 new dwellings were built, but it is pointed out that in North Terrace, North and South Railway

Streets, Henry and Green Streets, the houses are built back-to-back, and Dr. Dillon says "it is difficult to realise how "building on this system was ever permitted, and I hope that "at some future date these streets will be reconstructed." The three common lodging-houses, affording accommodation for 69 lodgers, with an average of 312 cubic feet of air-space per head, were frequently inspected and found to be in good order. No case of infectious disease occurred within them during the year. The cowsheds at 2 dairy farms have a cubic air-space of 853 feet per animal, and are well looked after. There are 9 factories, 12 workshops, and 9 workplaces in the district, and 324 inspections of these are reported to have been made. Six nuisances arising from want of cleanliness were detected and remedied, while one underground bakehouse was condemned. There are no outworkers in the district.

The Inspector reports that 416 informal and 12 formal notices were served, and resulted in the abatement of 460 nuisances; that 6 dwellings were dealt with under the Housing of the Working Classes Act, 1890, 4 of which were made habitable; that 4 samples of water were analysed, 2 of which were reported to be unsatisfactory; and that 12 lots of infected bedding and 14 houses were disinfected.

Sanitary Requirements.

The following are mentioned :—

1. The removal of all middens.
2. The cementing of all imperfectly paved yards.
3. The improvement of the present sewerage system.

Dr. Dillon's remarks and recommendations relative to the high infant death-rate also deserve very careful attention.

SHILDON AND EAST THICKLEY.

S. FIELDEN, M.D., Medical Officer of Health.

Area in Acres, 1,066.		Estimated Population, 1906, 13,125.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
38·7	20·8	5·1	190
Phthisis death-rate, 1·43.		Respiratory diseases death-rate, 2·5.	

All the chief mortality statistics are very unsatisfactory, the heavy mortality from enteric fever and diarrhoea being responsible for the very high zymotic death-rate, while the high infant mortality-rate was largely influenced by the diarrhoea deaths, 32 of these occurring among infants under one year of age.

The report refers specially to the infant mortality in the district, which during the third quarter was at the rate of 412 per 1,000 births, and the employment of a woman health visitor, which has already been considered by the Council, is strongly urged.

Infectious Diseases.

The notified cases numbered 232, an increase of 63 over the previous year, and included 134 of enteric fever, 50 of scarlet fever, and 30 of diphtheria. The cases of scarlet fever were generally of a mild type, in fact so mild that some of the early cases were not recognised, and in consequence acted as foci of infection. The cases of diphtheria, 6 of which ended fatally, were attributable partly to direct infection, while dirty surroundings and offensive emanations from sewer ventilators were also to some extent responsible. The District Council is urged to supply diphtheria anti-toxin gratuitously for the treatment of this disease.

Enteric fever became seriously epidemic in September, when 57 cases occurred, while 60 cases were reported in the following month, so that 117 cases out of a total of 134 occurred during those months. The distribution of the disease was not general, and the epidemic was especially severe in what is known as the "Brickyard" district—a low lying area on which dwelling-houses have been built on a clay or made soil, without the precaution having been taken of covering the sites with concrete. There was no evidence of the water supply being in any way implicated, and a careful enquiry into the milk supply appeared to exonerate the milk, though the sanitary circumstances connected with several of the milk supplies were

unsatisfactory. In the district where the disease was most prevalent, the drains and sewers have insufficient fall, the house drains were in some cases found to be defective, and complaints of offensive smells from the sewer ventilators in the streets were frequent. The sanitary conveniences of many of the infected houses were also a source of nuisance, which was aggravated by the very warm weather which prevailed. It is probable that in the first place some mild unrecognised cases of the disease occurred which resulted in the infection of conveniences, and possibly of the drains and sewers, from which the disease was spread abroad by the agency of dust and flies.

The precautions adopted for dealing with the epidemic included the systematic flushing of the sewers and the disinfection of ashpits, the removal to hospital of as many cases as possible, the provision of special nursing for patients isolated at home, the supplying of special receptacles containing disinfectants for the reception of the excreta of the patients, the disinfection of infected houses and bedding, the improvement in the ventilation of the sewers, and the remedying of insanitary conditions where they were found to exist. By the end of the year the epidemic was at an end, and in the meantime 19 deaths had occurred.

Diarrhœa was very fatal during the summer, causing 42 deaths, and Dr. Fielden says the long-continued heat of last summer favoured the development of the microbe which is the exciting cause of this disease, but that neglect of ventilation, improper feeding and uncleanly surroundings were predisposing factors, and were constantly met with where the disease occurred. Whooping cough was responsible for 3 deaths, but not a single case of measles occurred.

During the year 91 cases were isolated in hospital, 45 of which were cases of enteric fever.

General Sanitation.

The water supply is reported to have been satisfactory. Frequent inspections of the district were made during the year,

special attention being given owing to the epidemic prevalence of enteric fever. Among the improvements recorded are the abolition of a number of old midden-privies in favour of water-closets and ashclosets, improved trapping of many house drains, better ventilation and flushing of sewers, the making of several back and front streets, and the remedying of many insanitary conditions connected with cowsheds and milkshops. Respecting the latter, Dr. Fielden points out that most of the cowsheds are only wooden erections of an unsatisfactory character, and that many of the milkshops are capable of improvement. There was undoubtedly very great need for a better sanitary supervision of the milk trade throughout the district. The scavenging is reported to have been fairly well performed, though some complaints were made towards the end of the year, and an additional horse and cart were obtained in order that the work might be more frequently performed. The scavenging and refuse removal is carried out during the night-time, and the sewage disposal works and refuse destructor are stated to have given satisfactory results, while the slaughter-houses have generally been kept in good order. The 41 workshops and workplaces appear to have been the subject of 123 inspections, and 3 defects arising from want of ventilation were detected and subsequently remedied. There are no home-workers. The Inspector of Nuisances reports that 161 notices were served for the abatement of nuisances, most of which related to privy-ashpits and defects of drainage and yard paving; that one insanitary house was dealt with under the Housing of the Working Classes Act, 1890, and subsequently made habitable; and that 84 lots of bedding and 188 houses were disinfected, while 6 lots of bedding were destroyed.

Sanitary Requirements.

The following are mentioned :—

1. The abolition of midden-privies.
2. The cementing or asphaltting of open spaces and back yards.
3. The proper making of all front and back streets.

4. The appointment of a woman health visitor.
5. The erection of new cowsheds and dairies where necessary.
6. The gratuitous supply by the District Council of diphtheria anti-toxin for the treatment of those unable to afford the remedy.

SOUTHWICK-ON-WEAR.

JOHN J. CARRUTHERS, M.B., Medical Officer of Health.

Area in Acres, 856.		Estimated Population, 1906, 15,148.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
40·9	19·0	4·95	186
Phthisis death-rate, 0·92.		Respiratory diseases death-rate, 3·82.	

Generally speaking the mortality statistics are unfavourable, when compared with those for the previous year, and with the exception of the phthisis death-rate are very much higher than those for the County. The high infant and zymotic death-rates were mainly the result of the heavy mortality from diarrhœa, the prevalence of which is attributed partly to the high temperature of the summer months acting on an organically polluted soil, and partly to want of domestic cleanliness and proper feeding of infants. Attention is drawn in the report to the marked decline in the infant death-rate at Huddersfield, as the result of the careful supervision of the births and of the giving of proper instructions to the mothers.

During the first half of the year the total death-rate for the district did not exceed a rate of 15 per 1,000 population, but during the third and fourth quarters the mortality was at the rate of 24·9 and 22·2 per 1,000 respectively, while for the month of September the rate was as high as 43·3.

Infectious Diseases.

The notified cases numbered 75, an excess of 42 over the total for the previous year, and the most prevalent diseases were enteric fever (48) and scarlet fever (23). The cases of enteric fever were the subject of careful enquiry, and the report states that in 9 of them the state of the domestic surroundings

were such as would account for the disease ; that 13 cases were the direct result of eating shell fish ; and that 4 were due to infection from other cases in the same family. The origin of the other cases could not be traced. The following extract from Dr. Carruther's report proves very clearly that enteric fever can be caused by consumption of shell fish taken from polluted waters :—" On the 17th May, a steamship which had " been lying in the river for several years at Southwick was " put into the Cornhill dry dock to be cleaned. The bottom of " the vessel was one mass of mussels, and workmen and others " who had access to the dock carried off these mussels in " bucketfuls and shared them out to their friends and " neighbours. The mussels were subjected to various processes, " according to the taste or inclination of the possessors, " washing with water, pickling with salt and water, or with " vinegar ; boiling. Thirteen of the cases partook of the " mussels between the 19th and 20th May. In eight cases the " shell fish were eaten uncooked, and in four cases, all in one " family, there is some doubt whether the mussels were even " washed. In nine cases there were immediate bad effects in " varying degrees of severity from gastric discomfort and a " feeling of sickness to acute pain, vomiting, and diarrhoea. " The four cases referred to above suffered most in this respect. " The majority of the patients dated the beginning of the illness " from about a fortnight after the disorder, which immediately " succeeded the eating of the mussels. Many others who ate " the mussels stated that they experienced no bad effects, and in " one case at least severe immediate effects were not followed by " typhoid. Three of these cases terminated fatally."

The cases of scarlet fever were of a very mild type, and none of them proved fatal. There were only 2 cases of diphtheria notified, but there were 3 deaths registered from croup. Diarrhoea was extremely fatal, causing 52 deaths, 33 of which were those of infants under one year of age. The total number of cases isolated in hospital was 45, 73 per cent. of the typhoid fever cases being removed. For small-pox purposes

the district is included in the North-East Durham Joint Small-pox Hospital District, and negotiations are in progress for the use of the South Shields Borough Small-pox Hospital. Seventy-five houses and 75 lots of infected bedding were disinfected after infectious disease, and one school was also disinfected.

General Sanitation.

With few exceptions all the houses in the district have a good supply of water from the Sunderland and South Shields Water Company, but Thistley Hall and Witherwack Farm are still reported as being without a proper water supply. During the year considerable improvement was effected by the demolition of 39 houses, which included some of the worst in the district, as the result of the construction of the new bridge. The houses were situated in Wear Street, Inkerman Street, and Crown Road. There were 17 factories, 26 workshops, 1 workplace, and 2 homeworkers in the district, and these were subjected to 171 inspections, and 2 defects were ascertained; one resulting from want of cleanliness was remedied, and the other, arising from insufficient sanitary accommodation, had not been put right by the end of the year. Of the homeworkers, one was engaged in making wearing apparel, and the other in file-making, and both were subjected to 4 inspections. New sewers have been laid in several streets, and in many others the sewers have been relaid, while additional lampholes or manholes have been provided for several sewers. The scavenging is reported on satisfactorily, and "at no period in my experience has the scavenging, which is undertaken by the District Council's employees, been so satisfactory as it was during the past year."

The dairies and cowsheds were frequently inspected, and in most instances they were satisfactory, but "there was a perceptible tendency to interfere with the provisions made for ventilating the cowsheds by closing openings with the object of keeping the cows warm." Extensive improvements in the drainage and surroundings were effected at Red House Farm.

There are no common lodging-houses in the district.

The Inspector of Nuisances reports that 310 nuisances were abated after notice, and that 2 dwellings were permanently closed as the result of formal notices under the Housing of the Working Classes Act, 1890.

Sanitary Requirements.

The following are mentioned :—

1. The replacing of midden-privies by water-closets.
2. A public slaughter-house.
3. A public mortuary.
4. An efficient supply of water to Thistley Hall and Witherwack.

SPENNYMOOR.

W. MUSSELLWHITE, M.R.C.S., D.P.H.,

Medical Officer of Health.

Area in Acres, 3,388.		Estimated Population, 1906, 16,814.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
37·7	18·2	3·6	155
Phthisis death-rate, 1·31.		Respiratory diseases death-rate, 2·02.	

Dr. Mussellwhite thinks the estimate of the population is too low. The total death-rate was only 15·6 per 1,000 in the Tudhoe ward, but was 20·3 and 20·6 respectively in the Ferryhill and Spennymoor wards, owing, probably, to their more crowded condition. The uncertified deaths were 16·8 per cent. of the total deaths, which is rather a smaller proportion than in previous years. Although the infant mortality-rate was considerably lower than in the previous year, one-third of the deaths were due to diarrhœal diseases, and the report states “that there is no question that greater care in the feeding and “management of young babies would prevent the greater “majority of these deaths from diarrhœa.” Dr. Mussellwhite strongly urges the appointment of a lady sanitary inspector as the best means of overcoming the ignorance and carelessness

of the mothers and the high infant death-rate, and he is of opinion that much good resulted from the three short health lectures given in the district by one of the County medical inspectors of midwives.

Infectious Diseases.

The notifications numbered 65 and, though exceeding by 8 the total for 1905, were considerably below the average of previous years, a satisfactory condition of matters which is attributed to the use of the isolation hospital. Diphtheria (21 cases) was the most prevalent disease, and the majority (13) occurred in the Spennymoor ward. In most cases no cause could be ascertained, but one child attended school while suffering from the disease, and subsequently two other cases occurred in the school. The value of bacteriological examination in suspected cases of this disease is set forth, and Dr. Mussellwhite says:—"I would urge the medical practitioners of the district to use the facilities for increased accuracy of diagnosis provided by the County Council for all suspicious cases." There were 19 cases of scarlet fever and 2 of croup, and all the cases appear to have been the result of school infection. There was no death from the former disease. Enteric fever was responsible for 13 cases, but in none of them was suspicion attached to the milk or water supplies. In a few instances shellfish had been partaken of prior to the illness, and the opinion is expressed in the report that infection may have been conveyed by flies.

It is satisfactory to note that 80 per cent. of the cases of scarlet fever and diphtheria and enteric fever were treated in the isolation hospital and only one of the cases proved fatal, though several of them were of a severe type. The value of the hospital and the satisfactory nursing therein are grounds for congratulation. Arrangements exist for the isolation of cases of small-pox in the Auckland Joint Small-pox Hospital, near Binchester. Ten lots of bedding and 10 dwellings were disinfected after infectious disease, and all the elementary

schools were disinfected at the end of the year. There were no deaths from measles, but whooping cough was fatal in 7, and diarrhœa in 48 instances, 32 of the latter being among infants under one year of age.

General Sanitation.

The water supply to practically the whole of the district is obtained from the mains of the Weardale and Consett Water Company, but a portion of this supply, which passes through a small open reservoir near Stratton Street, was found on analysis to be contaminated by surface impurities. The Water Company and the Local Government Board were communicated with on the matter, and Dr. Mussellwhite has reason to believe that the Water Company will in the near future take steps to have the contamination prevented. During the year the Water Company's supply was laid on to Pickering's Farm, Tudhoe, and an improvement in the supply to Ox Close Farm was, at the end of the year, being effected, but Monk's Close Farm and Butcher Race Cottages are still without a proper supply. There is stated to be an insufficiency of houses, which necessitates a certain amount of overcrowding. Seven cases of overcrowding were dealt with and 2 convictions obtained, but it is noted with satisfaction that 53 new houses were built during the year, and that the erection of a large number of houses at Dean Bank has also tended to reduce the pressure on the district. Regret is expressed that many tenants, even when their houses are put into a proper sanitary state, do not keep their premises clean and neglect the most elementary requirements of domestic hygiene. It is satisfactory to note that 255 midden-privies were replaced by ashclosets or waterclosets.

The scavenging and removal of refuse are let by contract and are performed during the night-time and on the whole satisfactorily, though the work requires constant supervision. Several schools have been provided with automatically flushed waterclosets, but some still have ashclosets or privies and ash-pits, and "it is to be hoped that the County Council will soon "see their way to provide flushing closets for the elementary

“schools in the district, as ashclosets and privies are most unsuitable for schools where the ashes are not nearly sufficient to absorb the large amount of liquid and solid excrement.”

The question of the disposal of the sewage of the whole district received earnest consideration during the year, and a consulting engineer was appointed to draw up a complete scheme.

The dairies and cowsheds have been inspected, and in a few instances structural defects have been remedied, but the cobble floors in the Tudhoe district have not yet been replaced, and as a rule there are no suitable places for storing the milk. On this subject Dr. Musselwhite says “the whole question of the milk supply of the country, in my opinion, requires to be seriously dealt with, as it is, I believe, answerable for a large amount of disease. There is no power to prevent the milk from tuberculous cows being sold for domestic use. In most of the cowsheds I visited the cows were in a very filthy condition, and little, if any, trouble seemed to be taken to keep them in a cleanly state. I would strongly urge on all consumers of milk to see that it is invariably boiled before use, as boiling destroys nearly all the injurious organisms it may contain.”

The slaughter-houses were also subjected to inspection, and were as a rule well kept, but “as I pointed out in my last report, however, many of them are in too close proximity to dwelling-houses, and there is no doubt that the provision of a public slaughter-house would be a great improvement.” Some improvements have been made in the back streets, but the report states that many are in bad condition and require making. The tabulated statement as to factories and workshops is not appended to the report, but it is stated that all the larger workshops were inspected, and overcrowding was found in one case and sanitary defects in another, which were subsequently remedied. Dr. Mussellwhite calls attention to the foul air in some of the workshops, owing to the workers not using the appliances for ventilation, and he refers to objectionable

conditions at one of the mineral water factories in the following words :--“ In one of the mineral water factories I found no arrangement for rinsing the bottles after they had been washed. The bottles were tipped in a tub of hot water, brushed, and then drained ; the water in this tub was in a filthy condition, as (when one finds that empty bottles are often thrown on the dust heap) it could scarcely fail to be. I cannot help thinking that this is a serious danger to the public health.”

The Inspector of Nuisances reports that 282 informal and 290 formal notices were served, which resulted in the abatement of 464 nuisances ; that 4 houses were made habitable as the result of notices under the Housing of the Working Classes Act, 1890 ; and that 3 samples of water were taken for analysis and reported to be unsatisfactory.

Sanitary Requirements.

1. An improved water supply to outlying farms and houses.
2. The proper making of the back streets which are in a bad state of repair.
3. An improvement in the conditions affecting the purity of the milk supply.
4. A public slaughter-house.
5. The abolition of all insanitary ashpit-privies.
6. The proper disposal of the sewage of the district.
7. The appointment of a woman health inspector.

STANHOPE.

JOHN GRAY, M.B., Medical Officer of Health.

Area in Acres, 216.		Estimated Population, 1906, 1,993.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
21·5	17·0	0·5	45
Phthisis death-rate, 1·5.		Respiratory diseases death-rate, 0·5.	

The birth-rate was below the average, while the total death-rate was unduly high for the district.

Infectious Diseases.

The 46 cases notified included 42 of diphtheria, 3 of scarlet fever, and one of enteric fever. The diphtheria prevalence was largely the continuance of an epidemic which commenced in the latter part of 1905, and which was the subject of a special report of the Medical Officer of Health. Of the 82 cases which occurred since October, 1905, only 3 died, the low mortality being undoubtedly due to the anti-toxin treatment which was applied in every case, and Dr. Gray strongly recommends the District Council to provide a supply of this valuable remedy for the benefit of people who cannot afford to pay for it. In connection with the prevalence of diphtheria, Dr. Gray further says, "as factors which, in my opinion, tend to spread the disease, I beg to mention the following:—

"(1) The mild nature of many of the cases, some of whom may have been overlooked by the parents and allowed to attend school.

"(2) The excessive 'beating up' of ailing school children to keep up school attendance averages.

"(3) The impossibility of proper isolation in small cottages. If certain of the earlier cases had been properly isolated, the extensive spread of the disease would certainly have been prevented."

The report points out the advantage of the medical inspection of school children when epidemic disease is present in a district. Proper home isolation was possible for all the 3 cases of scarlet fever which occurred, and the single case of enteric fever was imported. There were no deaths from measles, whooping-cough, or diarrhœa.

General Sanitation.

The water supply is good and plentiful, and the reservoir was put into good order during the year. The general sanitary state of the district is stated to be good, and only one formal notice was served during the year, which was at once complied

with. Five new houses were erected, and 7 old ashpits were converted into earth-closets. The public scavenging is satisfactorily performed, except in the case where, owing to the absence of a public road, the ashpit contents have to be wheeled into and deposited in the public streets. There is only one factory, and there appears to be no workshop in the district.

The dairies and cowsheds received special attention and their condition was found to be fairly satisfactory. Of the 23 cowsheds in the district, 7 are classed as satisfactory and up-to-date, 13 as being capable of being brought up to modern requirements by the remedying of insanitary conditions, which were usually slight, while 3 were bad and unfit for the housing of milch cows, owing to their general insanitary and dilapidated condition. Copies of the regulations as to dairies and cowsheds have been supplied to each occupier and owner, with the intimation that after three months the District Council will take action to have the worst conditions remedied.

Sanitary Requirements.

The following are mentioned :—

1. Isolation hospital accommodation for cases of diphtheria, scarlet fever, and enteric fever.
2. A better means of access to back premises to facilitate public scavenging.
3. Compulsory notification of phthisis.
4. The provision of diphtheria anti-toxin by the District Council for poor patients.

STANLEY.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area in Acres, 3,593.		Estimated Population, 1906, 18,300.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
41·4	15·5	1·8	160
Phthisis death-rate, 0·81.		Respiratory diseases death-rate, 2·95.	

The birth-rate was very high, and the chief mortality statistics fairly satisfactory, though considerably more than one-half of the total deaths were those of children under 5 years of age. Leaflets on the feeding and management of children were distributed by the registrar to parents registering births.

Infectious Diseases.

There was a decrease in the number of notifications from 182 in 1905 to 103, and these included 40 cases of diphtheria, 35 of scarlet fever, and 18 of enteric fever. None of these diseases occurred in epidemic form, a satisfactory state of affairs, which is attributed to the prompt removal of the great majority of the cases to the hospital. The report states that no definite cause can be found to account for any of the cases, though in some instances the visiting in an infected district was suspected as a cause. There were no deaths from measles, but there were 13 fatal cases of whooping-cough and 15 of diarrhœa. All infected houses are reported to have been thoroughly fumigated on removal to hospital or recovery of the patient.

General Sanitation.

The water supply is stated to be abundant and of excellent quality. The report states that 67 self-contained and 40 tenemented houses were erected, that good results are obtained from the sewage disposal works by the bacteria system, but that disposal works are required for about 90 houses in the district which do not drain into the existing disposal works. Under the Housing of the Working Classes Act, 1890, 33 houses were dealt with, of which 15 were made habitable, 13 were closed, and 5 are receiving attention. Eighteen earth-closets have been erected in substitution for 6 objectionable midden-privies. The scavenging appears to be satisfactorily performed by contract, the slaughter-houses are stated to be kept clean, the dairies and cowsheds to be satisfactory, and the same remark is applied to the only licensed common lodging-house in the district. There are stated to be

16 factories, 34 workshops, and 3 bakeries in the district, and they were the subject of 66 inspections. Nineteen defects were ascertained, 18 of which were remedied before the end of the year. There appear to be no out-workers. A new steam laundry has recently been established in the district.

Sanitary Requirements.

Proper means of sewage disposal for the 90 houses mentioned in the report.

The report might with advantage give more information respecting the distribution of the cases of infectious disease as to season and locality, while for such a large district more detailed information on many matters involving the sanitary welfare of the district is desirable.

TANFIELD.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area in Acres, 4,779.

Estimated Population, 1906, 9,100.

Birth-rate.

Death-rate.

Zymotic death-rate.

Infant mortality-rate.

32·4

13·6

3·0

145

Phthisis death-rate, 0·33.

Respiratory diseases death-rate, 2·09.

Except for a comparatively high zymotic death-rate, the result of a high mortality from diphtheria and diarrhœa, the chief vital statistics are satisfactory. The report states that the infant mortality might have been lessened, had there been better housing accommodation. Leaflets as to the feeding and management of children are distributed to parents by the registrar.

Infectious Diseases.

The notified cases increased from 96 in 1905 to 154, and included 74 of diphtheria, 50 of scarlet fever and 3 of enteric fever. In spite of the serious prevalence of diphtheria and the heavy mortality (11 deaths), no reference is made to the cause or distribution of the disease, though it is stated that it was most prevalent during the third quarter of the year. The comparative freedom of the district from enteric fever was satisfactory.

Dr. Benson suggests that the notification of erysipelas was not necessary. There were 10 deaths from diarrhœa, but this fact is not commented upon in the report. Throughout the year the district was comparatively free from both measles and whooping cough. The number of cases removed to the hospital at Tanfield from the district was 48 of diphtheria, 35 of scarlet fever and 2 of enteric fever. No reference is made in the report as to the other precautionary measures taken to prevent the spread of infectious disease.

General Sanitation.

The water supply from the Weardale and Consett Water Company is stated to be good and abundant. During the year 47 new houses were built of a satisfactory type, and 6 dwellings at Tantobie, White-le-Head, and Waggon Hill were condemned as unfit for habitation and subsequently rebuilt. At Tanfield Lea and Hobson improvements in ventilation of out-offices to a number of dwellings are reported to have been made. There are still some one-roomed dwellings at Lintz and Friarside, and though they are mostly occupied by small families, "such limited accommodation should not be allowed "for obvious reasons."

During the year 25 insanitary ashpit-privies were replaced by ashclosets, and the report advocates the total abolition of all such conveniences. The scavenging and removal of house refuse are performed by contract, but whether satisfactorily or otherwise is not stated, but "suitable sites for "the deposits of refuse have been procured."

The whole of the villages in the district are stated to be completely sewered, and the sewage is subsequently subjected to purification, except at the small village of Causey. New works were constructed during the year at Tanfield Lea, but the sewage disposal works at Tantobie and White-le-Head cannot at all times deal with the sewage conveyed to them. The slaughter-houses are reported to be kept clean, and the retail bakeries to be satisfactory. No details are given as to the condition and supervision of the dairies and cowsheds. There

appears to have been 8 inspections of factories and workshops, which number 20, and 2 defects arising from unsuitable or defective sanitary accommodation were detected and remedied without any notice being served. There are stated to be no outworkers, while the workshops are "not yet" registered.

No report from the Inspector of Nuisances is included in the report, though a large number of notices, both verbal and written, were served for the removal of petty nuisances; they were all complied with and legal proceedings were never necessary.

Sanitary Requirements.

1. The abolition of insanitary ashpit-privies.
2. Action under the Housing of the Working Classes Act respecting the one-roomed tenements at Lintz and Friarside.
3. Sewage disposal works for the village of Causey.

The report might with advantage contain more detailed information on many sanitary matters affecting the welfare of the district.

TOW LAW.

J. H. NAISMITH, M.D., Medical Officer of Health.

Area in Acres, 477.		Estimated Population, 1906, 4,371.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
29·2	13·9	1·6	125

Phthisis death-rate, 1·83. Respiratory diseases death-rate, 1·6.

The death-rate from phthisis was somewhat high, otherwise the chief mortality statistics were satisfactory. Dr. Naismith thinks the infant mortality might be considerably reduced if more attention were given to the feeding and clothing of infants, and he draws attention to the danger of exposure of young children to sudden changes of temperature.

Infectious Diseases.

The number of notifications was 22, of which 12 were diphtheria, 9 erysipelas, and 1 scarlet fever. Diphtheria anti-toxin was used in the treatment of the diphtheria cases with

satisfactory results. The cases were distributed throughout the district, and, generally speaking, the origin of the disease was not ascertained. One case was removed to hospital, but no reference is made in the report to the disinfection of infected dwellings or their contents. There were 4 deaths from diarrhœa and one from whooping-cough.

General Sanitation.

The water supply from the Weardale and Consett Water Company is reported to have been satisfactory. As regards house accommodation, the opinion is expressed that in many houses there are too many occupants for comfort or pure morals, but seeing that the town is dependent on one industry, coalmining, Dr. Naismith is afraid that nothing but minor improvements in the housing accommodation can be looked for. The report states that there are still a number of open middens, which are unsightly, and the necessity for careful scavenging of such structures is referred to. The general drainage of the district is stated to be satisfactory, and the question of the disposal of the sewage is receiving attention. Most of the back streets are reported to be in a very bad condition, and almost impassable during the winter time, and Dr. Naismith says "this has been referred to again and again, but "there always arises the point as to who has to put them in a "good condition to begin with." There are no common lodging-houses in the district. The slaughter-houses are reported to be satisfactory, and the cowsheds to be kept in a more cleanly condition than formerly. There are only 3 workshops in the district, and 2 inspections of them were made, when their condition was found to be satisfactory. The inspector reports that 49 informal and 15 formal notices were served for the abatement of nuisances; that 19 ashclosets were erected in place of midden-privies; and that improvements in house drainage and the spouting of houses, &c., were carried out.

Sanitary Requirements.

1. The abolition of all insanitary ashpit-privies.
2. The prevention of overcrowding in dwellings.

3. The proper disposal of the sewage.

4. The proper making of back streets, and I would point out that the District Council can deal with this matter under the Private Streets Works Act at the expense of the owners.

WHICKHAM.

ANDREW SMITH, M.D., Medical Officer of Health.

Area in Acres, 5,914.

Estimated Population, 1906, 15,194.

Birth-rate.

Death-rate.

Zymotic death-rate.

Infant mortality-rate.

35·6

16·1

2·82

162

Phthisis death-rate, 1·11.

Respiratory diseases death-rate, 1·44.

Dr. Smith thinks the estimated population given above is too low, the estimate of the district registrar based on the number of inhabited houses being 17,496. The total death-rate is fairly satisfactory, though together with the zymotic and infant death-rates it is considerably higher than for the previous year. The report deals at length with the subject of infant mortality, and the opinion is expressed that it is largely the result of defective nutrition arising from artificial feeding, and it is significant that all the deaths of infants from diarrhoea (19) were among bottle-fed babies, and Dr. Smith adds “the essential cause of the continued high infant mortality is, in my opinion, “a lowered moral tone as to parental responsibility and the “essential factors are intemperance on the part of the parents “and maternal neglect through ignorance and general ineptitude, showing itself chiefly in improper feeding of children.

“In addition to improvements in sanitation therefore “it seems to me that an educational crusade will be necessary “before infantile mortality can be greatly lessened, in which “christian missionaries, medical missionaries and, above all, “lady nurse missionaries will have to be enlisted.”

The deaths from tubercular diseases were nearly 12 per cent. of the total deaths from all causes.

A table is given in the report which shows that the lowest death-rates occurred in the Marley Hill and Whickham

areas, while the highest was in Swalwell, and the report discusses at some length the various mortality-rates and their relation to sanitary circumstances in these different districts.

Infectious Diseases.

The notifications numbered 79, which is 3 less than in the previous year, and the most prevalent diseases were scarlet fever (38 cases), diphtheria (29), and enteric and continued fevers (6). The majority of these cases were in the Dunston and Marley Hill areas, only one being reported from Swalwell, the most insanitary part of the district. Scarlet fever was of a mild type generally, but caused 3 deaths, and Dr. Smith thinks the disease was spread by mild, undetected cases attending the schools and other childrens' gatherings. Of the diphtheria cases, 22 occurred at Marley Hill, the infection having been probably carried there from Burnopfield, in the adjoining sanitary district, where the disease was prevalent. The report refers to the great value of diphtheria anti-toxin and to the importance of the proper isolation of diphtheria patients, and it is urged that no child living in the same house as a diphtheria patient should be allowed to attend school until a full month after the patient's convalescence, or unless at least one swab from the throat of each is shown to be free from the diphtheria bacillus. The fallacy which may arise in comparative statistics of home and hospital treatment is pointed out, and the importance of bacteriological examination in respect of doubtful cases of diphtheria is again urged.

Of the typhoid fever cases, 4 were at Dunston and 3 of these were of common origin, the first of them being associated with insanitary conditions.

Measles was not generally prevalent, but caused 3 deaths at Dunston in January; but whooping cough was seriously epidemic at Whickham and Swalwell during the first half of the year and was responsible for 9 deaths. The report points out how difficult it is to cope with this disease, but that much more might be done in excluding cases from school and in prohibiting children from going to school where cases exist,

while Dr. Smith states that school authorities do not assist in the matter, as he knows it to be a fact "that many children "with whooping cough are forced into school, and still more "children from houses where cases exist, the consequence is "that when once a genuine epidemic occurs it only comes to "an end by being burnt out."

Diarrhœa was very prevalent and fatal during the summer months, causing 23 deaths, of which 14 were in Dunston, and Dr. Smith expresses the opinion that while dirt and insanitary conditions and improper feeding are the usual predisposing causes, improper feeding is the predisposing factor which largely determines the fatalities. Dr. Smith also expresses the opinion that diarrhœa prevalence is a fairly good guide as to the general sanitary condition of a district.

There was no hospital available for the district during the year, but hospital accommodation was being provided for the use of the Blaydon, Ryton, and Whickham districts, and will shortly be available, while provision for small-pox was also being made at Sealburns, in the Ryton district. The usual precautions for the prevention of the spread of infection were carried out, and every care was taken to prevent children from infected houses attending school. Seventy-eight houses and 82 lots of bedding were disinfected.

General Sanitation.

The water supply is stated to be ample and also excellent in quality, the whole district, with the exception of Marley Hill, which uses water from the Weardale and Consett Company, being supplied by the Newcastle and Gateshead Company. The report deals at considerable length with the house accommodation in the district and with overcrowding, and during the year a complete census was taken of all the worst parts of the district, with the object of ascertaining the amount of overcrowding. This was found to be greatest at Swalwell, though much of it may have been temporary in character, owing to the number of men employed in the railway widening. At Marley Hill, the sanitary condition

of which area was the subject of special attention by Dr. Darra Mair, one of the medical inspectors of the Local Government Board, who inspected the whole district in the early spring, the overcrowding has been partly mitigated by the conversion of one row of back-to-back houses into through houses, but otherwise the back-to-back conditions at Marley Hill, referred to in previous reports, remain unaltered, and as to the requirements of that area Dr. Smith says that "we cannot well do much there until we have received and fully considered Dr. Darra Mair's report."

During the year a large scheme of drainage and sewerage was undertaken for the Whaggs and Tethercock estates, and the report recommends that at Byermoor the open channels should be replaced by proper drains and sewers. The introduction of water-closets instead of ashclosets for new houses and the provision of bathrooms are also recommended, and it is satisfactory to note that water-closets have been introduced into the houses in some of the new streets at Dunston. During the year 145 new ashclosets were erected in place of ashpit-privies, and of these 88 were at Dunston, 28 at Whickham, and 29 at Swalwell. The report states that defective spouting has received special attention, and details are given of inspections of insanitary houses at Whickham (Back Row, Rectory Cottages, and Pink Hall), and at Swalwell (Long Rigg, Skinnery, and Brown's Buildings). Some improvements in the roads at Swalwell have been made, and early attention is required to the new roads to the Whaggs estate, to Waterside, and Poorhouse Yard, Swalwell, and to Back Row, Whickham, and other yards and alleys there as well as in Dunston. There are 8 public elementary schools in the district, and these were inspected; defects were found in two of them and were subsequently remedied, and all are now reported to be satisfactory. The scavenging and removal of refuse are now performed by the District Council's own men throughout the district, "the contract system for Marley Hill having been abandoned, with great improvement in efficiency." The slaughter-houses

are still unregistered, but they are stated to be subject to strict inspection. The cowbyres were also frequently inspected, and the report states that some of the older ones require to be improved and that greater air space per cow should be demanded, together with more efficient ventilation and better lighting. They all have an excellent water supply.

The factories and workshops are all stated to be satisfactory, and it was not found necessary to call the attention of the Factory Inspectors to any defects or deficiencies. There are 11 workshops on the register, and there were 4 small bakehouses, none of which are underground, and no outworkers are known. From the report of the Inspector of Nuisances it appears that 653 nuisances were abated as the result of the serving of 658 informal notices, and that 8 dwellings were dealt with under the Housing of the Working Classes Act, 1890, one of which was made habitable, 3 permanently closed, and 4 were under consideration.

Sanitary Requirements

1. The prevention of overcrowding and the improvement in the housing conditions, especially at Swalwell and Marley Hill.

2. The substitution of ashclosets and water-closets for insanitary ashpit-privies.

3. The proper making of all roads and streets which are in a bad condition.

4. An improvement in the lighting, ventilation and air space, as well as cleanliness, in the older cowbyres.

5. The registration of slaughter-houses.

6. The appointment of a lady health visitor, with the object of reducing the infant mortality, deserves consideration.

WILLINGTON.

R. E. BROWN, L.R.C.P., Medical Officer of Health.

Area in Acres, 3793.		Estimated Population, 1906, 7,938.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32·3	17·0	2·0	186
Phthisis death-rate, 1·00.		Respiratory diseases death-rate, 2·7.	

There was a rise of 1·5 per 1,000 in the total death-rate, when compared with the previous year, while there was a marked increase in the infant mortality, the rate in the preceding year having been only 121. In the Willington portion of the district, the total death-rate was 18·8 per 1,000, while in Stockley it was only 13·5.

Infectious Diseases.

No disease was seriously prevalent, the total notified cases numbering 25, or 57 less than in 1905, this decrease being attributed to the speedy isolation of patients by removal to the isolation hospital situated at Helmington Row. There were 6 cases of scarlet fever, all of them being of a mild type, and none of them were traced to the milk supply. The diphtheria cases numbered 4, one of them being infected from a cat, while the others probably owed their origin to insanitary surroundings. Diphtheria anti-toxin is supplied gratuitously to medical practitioners desiring to use it. Of the 6 cases of enteric fever, an equal number occurred in Willington and Stockley, and Dr. Brown says "insanitary surroundings, which "exist in the neighbourhood of all open midden-steads, and "the fouling of the earth at and near the back doors of the "houses, have, undoubtedly, everything to do with the origin "of this disease." There were 4 cases of puerperal fever but their cause is not discussed in the report.

Twelve cases were removed to the isolation hospital for treatment, and 16 infected houses and 16 lots of bedding were also disinfected, while disinfectants were supplied to all infected houses. There were no deaths from measles, but whooping-cough was fatal in one case, and diarrhoea in 14 cases, 10 of them being among children under one year of age, and attributed to improper feeding and insanitary surroundings.

General Sanitation.

The water supplied by the Weardale and Consett Water Company is reported to be satisfactory, and in hot weather water is used for flushing the sewers by means of a water cart. There are a number of waterclosets in the district, and all new

houses are provided either with waterclosets or ashclosets, but there are still many other insanitary and defective ashpit-privies in the district, which the report urges should be abolished.

The scavenging is performed by contract in a generally satisfactory manner, and the refuse is deposited at the Council's tip at Low Willington, and is also used as manure on the fields. Complaint is made in the report of the fouling of the streets by the emptying on to them of the contents of midden-privies during scavenging, and Dr. Brown says "as this is a very likely cause of disease in the hot summer months, and is a great nuisance to the passers by, it ought to be put a stop to by substituting waterclosets for the midden-privies, and pails or buckets for the dry ashes."

The drains in the district are all believed to be properly trapped, and the disposal of the sewage by means of Stoddart's continuous filters is stated, on the whole, to have given satisfactory results.

Respecting the dwellings of the working classes, the report states that some of the dwellings consist of one room and an attic, the latter being low, badly lighted, and ill-ventilated. Plans have been submitted by the colliery owners for the reconstruction of 38 houses which contain such attic rooms, and it was expected that this improvement would be commenced as soon as the weather permitted. Back-to-back houses exist in several parts of the district, while the report states that spouting requires repairing, and that the back streets are specially in need of attention, some of them, notably Lydia Street and the back of Commercial Street, being in a deplorable state.

There are no common lodging-houses in the district. The six registered slaughter-houses are reported to have been frequently inspected and to be in a satisfactory state, while the cowsheds were in fairly good order, but a number of them had faulty ventilation and were badly lighted. Some improvements have been made, but progress is stated to be very slow. Sanitary improvements effected during the year include the provision of

21 ashclosets and 4 waterclosets in lieu of insanitary ashpit-privies, the paving or cementing of 12 defective yards, the remedying of 14 defects of drainage, and the provision of improved water supply to 5 dwellings previously dependent on wells. At Mill Street, a new sanitary pipe sewer was laid in place of an old brick one.

Under the Factory and Workshop Act, 118 inspections were made and 10 verbal notices given for the remedying of 10 defects arising from want of cleanliness or ventilation or other nuisances, and they were all remedied. There are 20 workshops on the register, but no outworkers are known.

Sanitary Requirements.

The following are mentioned :—

1. The substitution of ashclosets for defective midden-privies.

2. The provision of waterclosets, and pails or buckets for dry refuse where the contents of midden-privies have to be wheeled into the streets.

3. The immediate making, paving, and channelling of Lydia Street and Back Commercial Street.

4. The repairing and paving of the footpath on the north side of the main street.

5. Improvements in lighting and ventilation of cowsheds.

RURAL DISTRICTS.

AUCKLAND RURAL DISTRICT.

J. G. WILLIS, L.R.C.P., D.P.H., Medical Officer of Health.

Area in Acres, 57,334. Estimated Population, 1906, 57,380.
 Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

33·6 17·1 2·99 173

Phthisis death-rate, 0·59. Respiratory diseases death-rate, 2·54.

The chief mortality statistics are very similar to those of the previous year, but the zymotic and infant death-rates are both unduly high. Improper feeding is given in the report as an important factor in the high infant death-rate, and the text of a leaflet on the feeding and management of infants, drawn up by the Medical Officer of Health and distributed to the parents by the registrars of births, is inserted in the report. The greatest number of deaths occurred in the months of September and January, and the smallest number in November. The death-rate from phthisis was extremely low.

Infectious Diseases.

The total notifications declined from 423 in 1905 to 340, the most prevalent diseases being scarlet fever (108), enteric and continued fevers (102), and diphtheria (79). The scarlet fever cases were of a mild type, and only 3 deaths occurred. As to the diphtheria cases, which altogether caused 8 deaths, Dr. Willis expresses the opinion that many of the cases were nothing more than poisoned throats. Diphtheria anti-toxin was supplied gratuitously to necessitous cases. There was a slight increase in the prevalence of enteric fever compared with the previous year, the most cases being notified from the townships of St. Andrews, Coundon and Helmington Row. The following remarks are made by Dr. Willis respecting the serious prevalence of this disease and the large mortality of 124 deaths from diarrhoeal diseases :— “ One hundred “ cases of this disease were notified during the year, as against

“ 96 the previous year. There were 17 deaths. Fifty-one cases
 “ were removed to hospital. The largest number of cases that
 “ occurred in any one month was in the month of September.
 “ Thirty-eight cases were notified in 11 townships out of the 29
 “ which comprise the rural district. The long drought and
 “ exceptionally warm summer was especially favourable for
 “ the production of this disease, and also diarrhœa, which was
 “ also very prevalent at the same time. It was most difficult to
 “ account for the cause of many of the cases. A large number
 “ of the cases occurred in new property, and the sanitary
 “ arrangements were all that was to be desired. The milk or
 “ water supply could not be held responsible, as the milk
 “ supplied varied in the majority of the cases, and in a few
 “ cases condensed milk was used. With regard to the water
 “ supply, no cases occurred in townships which had the same
 “ water supply as the infected townships. A few cases were
 “ unquestionably imported, and it is a significant fact that some
 “ of the patients worked at Shildon, where enteric fever was
 “ prevalent at the time.”

During the year 90 cases of infectious diseases were removed to hospital, over 50 per cent of the cases of enteric fever being so isolated. The report does not specially refer to the precautions taken against infectious disease, except to state that all the closets attached to the houses where enteric fever occurred were thoroughly disinfected by chloride of mercury.

It appears from the reports of the Inspectors of Nuisances that 144 dwellings and 87 lots of infectious bedding were disinfected. There were 4 deaths from measles and 26 from whooping cough.

General Sanitation.

The greater portion of the district is reported to be supplied with wholesome and sufficient water, but no details are given. One sample of water was condemned during the year, and water was laid on to two farmhouses at High Woodfield, and to one house at Coundon. During the year plans for 351 new houses were passed, but the report does not refer to

the general house accommodation in the district. Considerable attention is reported to have been paid to sewage disposal during the year, and the sanitary officials visited a number of sewage disposal works in different parts of the country. Improvements in the sewage disposal works at Coundon and Middlestone have been made, and new works have been carried out at Wind Mill and Woodhouses. Plans for the South Church and Dene Beck sewage disposal works have been submitted to the Local Government Board, and negotiations were in progress respecting new works for Middlestone Moor and Witton Park. The scavenging of the district, with certain exceptions, is stated to have been well performed, but considerable vigilance was necessary on the part of the sanitary inspectors in having the work carried out satisfactorily. There was an increasing difficulty in obtaining satisfactory tips, and the provision of a refuse destructor is again urged. There is stated to be 166 registered dairies and cowsheds, which are periodically inspected and "whenever any insanitary condition "is found, if the defects are not remedied by verbal notices "statutory notice is served." No information is, however, given as to the actual sanitary condition of these buildings, nor as to the two common lodging-houses which are stated to have been periodically visited. There are 17 factories, 91 workshops and one workplace in the district, and these were subjected to 261 inspections, but no sanitary defects were discovered. Systematic inspection of the district is reported to have been made, and in three instances legal proceedings were taken. The reports of the Inspectors of Nuisances are appended to the report of the Medical Officer of Health, and it appears that in No. 1 District 450 nuisances were abated as a result of the service of 403 informal and 243 formal notices; that 140 ashclosets and 2 waterclosets were built in place of ashpit-privies; and that 5 dwellings were dealt with under the Housing of the Working Classes Act, 1890, but with what result is not stated. In No. 2 District 496 nuisances were abated in consequence of the serving

of 504 informal and 221 formal notices; 74 ashpit-privies were replaced by ashclosets and waterclosets; and one sample of water was analysed and condemned as unfit for use. The inspectors in their reports also refer to the scavenging, and the sanitary condition of dairies, cowsheds, slaughterhouses, &c.

Sanitary Requirements.

The only recommendation in the report is the provision of a refuse destructor.

BARNARD CASTLE RURAL DISTRICT.

JAMES C. NELIGAN, L.R.C.S., Medical Officer of Health.

Area in Acres, 79,961.		Estimated Population, 1906, 10,976.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
27'0	17'0	1'0	117
Phthisis death-rate, 1'09.		Respiratory diseases death-rate, 1'09.	

This district was previously supervised by three Medical Officers of Health, but at the end of September Dr. Neligan was appointed Medical Officer of Health for the whole district. One of the gentlemen previously holding that office did not submit an annual report for his portion of the district for that period of the year during his tenure of the post, and the statistics for the district obtainable from the reports of the Medical Officer of Health are therefore incomplete. Under the circumstances, I have utilised the statistics, which I obtain direct from the registrars, in calculating the vital statistics for the whole district given above and in the tables at the end of this report.

Dr. Neligan recommends the distribution by the registrars of leaflets giving simple directions as to the feeding and management of children.

Infectious Diseases.

The total number of notifications received during the year was 61, which is 14 more than in the previous year. The most prevalent diseases were diphtheria (31) and scarlet fever

(19). The cases of scarlet fever were generally of a mild type, and none of these cases proved fatal. Diphtheria caused 3 deaths in the Staindrop Division, where 2 deaths from croup also occurred, and one death in the Middleton Division. There were 3 deaths from diarrhoea in the whole district and one from whooping cough, but there were no deaths from either measles or enteric fever. Measles was epidemic in the village of Stainton during July, and owing to the prevalence of infectious disease there the Medical Officer of Health advised the closing of the schools. A new isolation hospital has been provided near to Barnard Castle and is ready for the reception of patients.

General Sanitation.

Owing to the dry spring and summer there was a scarcity of water in several parts of the district, but the deficiency has been remedied. On Lord Barnard's Teesdale estate a number of dwellings have been provided with a good water supply, and the Tees Valley Water Board's main has been extended to Staindrop Village, where a number of houses has also been supplied, "but, unfortunately, there exists a "strong prejudice against the general use of this water." At Middleton an improvement in the supply has been made, and at Aukside the defective supply has been made good, while a scheme for supplying the village of Newbiggin is under consideration. The Woodland and Cockfield supplies are stated to have been ample for domestic purposes, but owing to the drought the supply to some of the Cockfield collieries had to be stopped for a time. During the year 12 new houses were erected in the whole district, and it is stated that 4 houses were closed on account of structural defects, and that 23, which were in a bad state, have been repaired. Defective drainage was made good at 144 houses, and other improvements to house property are reported. Dr. Neligan draws attention to the fact that in a large proportion of the houses inspected the windows of the living rooms cannot be opened to provide ventilation, and calls the attention of owners to the great necessity of altering

the windows so that the upper half may be made to open. In most parts of the district the work of scavenging and refuse removal is performed by the occupiers, but at Cockfield it is under the control of the District Council, and at Woodlands it is in the hands of the Colliery Company.

In 42 instances notices were served to abate nuisances caused by the accumulations of filth, while 19 nuisances caused by insanitary conveniences were abated, and at 36 houses midden-privies have been replaced by small ashclosets. A strong recommendation is made by Dr. Neligan that all midden-privies should be abolished in favour of waterclosets or small ashclosets. The sewers and sewage disposal works are stated to have been maintained in a fairly good condition, and a new sewer was constructed at New Row, Middleton.

New bye-laws as to dairies, cowsheds, milkshops, and slaughter-houses have been adopted, and came into operation early in 1907. There are 13 factories and 40 workshops in the whole district, which are stated to have been inspected, but no sanitary defects requiring attention were discovered. In concluding his report, Dr. Neligan says "since my appointment to the whole district I have visited and inspected the larger villages on several occasions. It is my intention to inspect all the out-lying portions as soon as the weather permits, and in the more crowded and poorest parts of the villages to make a house-to-house inspection during my term of office."

Sanitary Requirements.

1. A better water supply for Newbiggin and other villages where the existing supply is liable to pollution or is inadequate.
2. Better ventilation of dwelling-houses.
3. The abolition of all insanitary midden-privies.
4. The distribution of leaflets on the feeding and management of children.

CHESTER-LE-STREET RURAL DISTRICT.

JOHN TAYLOR, M.D., D.P.H., Medical Officer of Health.

Area in Acres, 34,620. Estimated Population, 1906, 70,884.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
36·5	16·4	2·4	163

Phthisis death-rate, 1·14. Respiratory diseases death-rate, 2·28.

The birth-rate is slightly lower than in the previous year, but the chief mortality statistics compare very favourably with those of previous years. In 11 townships there was an increase of population, which was most marked in Washington township. On the other hand, there was a decided decrease in Edmondsley, owing to the closing of insanitary houses. The highest birth-rates per 1,000 population occurred in the townships of Pelton (47·2) and Plawsworth (39·1), while it was as low as 23·4 in Burnmoor. The persistently high birth-rate in Pelton, which has averaged nearly 45 during the last five years, suggests that the population is underestimated. As regards the total death-rate, only once in the last 20 years, namely in 1897, has it been so low as in the year under review, and this is all the more satisfactory seeing that the hot, dry summer was favourable to the development of diarrhoeal diseases. The highest death-rate occurred during the first quarter (18·9), and the lowest during the second quarter (13·5), and in the different townships the highest rates were 22·9 in Great Lumley and 20·8 in Pelton, which townships also had the highest rates in the previous year. On the other hand, in Lamesley, Herrington and Urpeth the total death-rate was between 14 and 15, and in the previous year these townships also had the lowest death-rates. Respecting the infant mortality per 1,000 births, the highest rates were in Edmondsley (200), Pelton (183) and Washington and Witton Gilbert (177), while in Harraton it was as low as 110. It is pointed out that 83 deaths occurred from premature birth, while pneumonia, bronchitis and diarrhoea

were very fatal among infants. Dr. Taylor estimates that at least 113 stillbirths occurred in the district. Phthisis caused a higher mortality than in the previous year, and the report deals at some length with this disease, especially in connection with the channels of infection and the value of sanatorium treatment. It is pointed out that of the deaths from phthisis, which is probably caused by infection through the air passages, 75 per cent occurred between the ages of 15 and 45, while of the other forms of tuberculosis, in which the infection is more likely to have been carried by the food (milk in particular), over 75 per cent. of the deaths occurred under the age of 15, and 65 per cent. of these occurred under the age of 5. Reference is also made to the proved relationship between animal and human tuberculosis.

Infectious Diseases.

There was a further marked decline in the total number of notifications, which fell from 789 in 1904 to 655 in 1905, and to 484 last year, which is only about one-half of the average number notified during the last 5 years. Dr. Taylor says the decrease is apparently due to the less infective type of the diseases at present, and he thinks it likely that the minimum has now been reached, and that there will be some increase during 1907. The only disease showing any increase in the number of notifications was diphtheria. The scarlet fever cases numbered 223 and were generally of a mild type, only 4 deaths occurring. The disease was pretty generally distributed over the district, and there was no suspicion of milk or school infection as factors in the causation of the disease. The cases of diphtheria increased from 80 in the previous year to 112, and it is pointed out that it is very largely a children's disease, nearly 93 per cent. of the cases occurring in children under the age of 15. The case-mortality was very high, 29 deaths occurring, being nearly 26 per cent. of the notified cases, while between the ages of one and 5 nearly one-half of the cases proved fatal. Dr. Taylor states that although diphtheria anti-toxin is supplied free of charge by the District Council, in

many townships it is but very little used judging by the comparatively small number of applications for a supply, and it is interesting to note that in the Chester-le-Street township, to the medical practitioners in which the largest quantity of anti-toxin is supplied, the case-mortality from diphtheria (11·1 per cent.) was less than half that in any other township. The view is also expressed that in many instances the dose of anti-toxin given by medical practitioners is not only too small, but is delayed until that stage of the disease has been reached when all treatment fails. It is to be noted that very few secondary cases occurred in the same house, which is rather peculiar when the very limited space in many dwellings and the consequent lack of means of isolation is considered, for only 8 per cent. of the cases of diphtheria were isolated in hospital. Enteric fever was less prevalent than in the previous year, the total cases falling from 78 to 65, and only 6 deaths occurred as against 10 in the previous year. The disease was most prevalent in the townships of Usworth, Chester-le-Street and Washington, and the report states that in no case could suspicion be definitely attached to the water or milk supplies, though there were some suspicious circumstances relative to the milk supply from one farm. Dr. Taylor emphasises how easily the disease may be spread by direct infection, especially when there is carelessness in the nursing and in the disposal of the patient's excreta. In very few cases did there appear to be any direct connection with special insanitary conditions. Diarrhœa was very fatal causing 101 deaths, and there were also 20 deaths from enteritis, 14 of which were under one year of age, and should, in accordance with the directions of the Local Government Board, be included among the deaths from diarrhœa. The report points out that pollution of the soil and air, combined with a high temperature, are conditions favourable to the prevalence of the disease. There were 9 deaths from measles, 8 of them occurring in the adjoining townships of Chester-le-Street and Pelton, while whooping cough was responsible for 23 deaths, 17 of which were in the townships of Chester-le-Street and Usworth.

The number of cases removed to hospital was 53, equal to 12·5 per cent. of the total number of cases of scarlet fever, diphtheria and enteric fever. There is still no systematic disinfection of infected dwellings and articles of clothing, &c., and some proper system is again urged and the opinion is expressed that a reliable man should be employed to perform the disinfection under the supervision of the Sanitary Inspectors, who are themselves unable to carry out the work. The estimated outlay is only about £90, and Dr. Taylor adds “this added expenditure, along with that of the disinfectant used, would not be a heavy item, and I am sure that in a few years, when its fruits would be beginning to be observed, the cost will be more than saved by the lessening of infectious diseases, the fewer deaths, and the lessened cost of sickness to the worker.”

During the year the construction of two permanent pavilions, each of which contains two wards of 6 beds, was commenced on the site of the old isolation hospital, and they will probably be ready for occupation during the early part of 1907. A well constructed iron and wood hospital for small-pox has also been provided in the Harraton township. The report deals at some length with the sanitary condition, disinfection, &c., of the elementary schools in the district, which number 44. Dr. Taylor states that many of the schools are overcrowded, and that in some instances the privy accommodation is inadequate and insanitary, and he also thinks the present method of disinfection and cleansing of schools is neither systematic nor satisfactory. No schools were closed during the year on account of the prevalence of infectious disease. It is pointed out that the Local Government Board now requires information in the annual reports of medical officers of health as to the sanitary condition of schools and the health of the scholars, and Dr. Taylor says “this covers a rather wide field, and will certainly give your sanitary officers a good deal more work if any real inspection is to be undertaken.”

General Sanitation.

From 90 to 95 per cent. of the houses in the district are stated to be provided with constant water supplies either from water companies or colliery companies, and the proportion of houses inadequately supplied is annually becoming less. In the township of Usworth a great improvement has resulted from the supplying of water from the Newcastle and Gateshead Water Company to the majority of the houses. In the parish of Lamesley there are about 12 houses dependent on surface well-water, which the District Council have decided to provide with a proper supply if possible. Improvements in water supply have been made at Nova Scotia, and are required to a number of houses known as "the Furnace," in the Chester-le-Street township.

The house accommodation in the district is dealt with at some length, and in addition to a number of insanitary houses in the Usworth and Edmondsley townships dealt with by the County Council, the efforts of the District Council's officials resulted in the closing of 45 houses in the townships of Birtley (7 in High Row), Burnmoor (4 in D. Pit Square), Lamesley (3 in Eighton Banks), Usworth (7 in Red Row, Springwell, and 7 in the Middle Row, The Mount), and Washington (14 at the Coke Ovens, and 1 each at the Staiths, Six Houses, and New Washington).

Negotiations were entered into by the District Council with the owners of the collieries in the Usworth township for the erection by them of additional houses, which are urgently needed, but the results were not altogether satisfactory, and did not meet with the approval of the County Council, who have resolved that the District Council have made default in this township under Part iii. of the Housing Act of 1890, and are taking action to erect houses in the township. Steps were taken during the year by the owners of the Usworth and Washington Collieries to build additional houses, but they will not to any appreciable extent meet the requirements. Dr. Taylor points out that some of the new houses erected do not

afford satisfactory accommodation for a working man's family, as may be gathered from the following extracts from his report :—“ The twelve houses built by private enterprise in the “ Colliery Road at Usworth are houses quite unfit for a working “ man's family. They consist of four rooms and a yard “ containing ashcloset and coal-house. Downstairs there are a “ front room, 13ft. x 12ft. 9in., 8ft. high, and a back room “ opening off the front room) 13ft. x 12ft. This is the kitchen, “ a miner's most used room. To make this small kitchen still “ smaller, it is partly occupied by a staircase 2ft. 10in. wide, “ leaving a total floor space of not more than 108 square feet. “ The back wall is pierced by the door at the extreme end of “ the wall from the fireplace, which occupies a part of the end “ running at right angles to the back wall, and the window in “ the back wall is placed at the end next the fireplace, so that “ really the fireplace touches the window jamb. Upstairs is a “ front room same size as the downstairs front room, and a “ back room 13ft. x 9ft. It would be rather difficult to devise a “ house less useful and convenient to the class of occupiers “ than this house.”

“ It is to be sincerely hoped that legislation be intro- “ duced at an early date to deal with the floor space of rooms “ in similar terms to what has been done to enforce a minimum “ height of rooms.”

“ As another example of what appears to me to be an “ inconvenient and unsuitably arranged house for a working “ man are the houses in Ernest Street, Washington Station. “ These houses are one-storeyed, with a cemented back yard “ and iron palisading on a dwarf wall in front. They look “ somewhat pretty from where ‘ distance lends enchantment to “ ‘ the view.’ The front room, with bay window, measures “ 13ft. x 12ft. x 9ft. in height; and a kitchen 15ft. x 12ft. 3in. “ x 9ft., and one more room behind the kitchen, and that room “ is only 10ft. by 7ft., and is used presumably for a bedroom. “ The floor space is 70 sq. ft., and an ordinary sized bed “ occupies 27 sq. ft. at the least, or 38·5 per cent. of the avail- “ able floor space. There is no fireplace, and since many of

“these rooms may be occupied for some time both day and
 “night, the condition of unventilation can readily be imagined.
 “The families occupying these houses must use some of the
 “other rooms as bedrooms, and this shows the absurdity
 “of the arrangement of the rooms, and the cost paid for what
 “is undoubtedly a house injurious to the health and comfort
 “of those who must (at least more or less so) occupy them.”

He also says, referring to the housing question, “the
 “requirements in the future, so far as the housing question is
 “concerned, are vast, and in this respect the greatest needs are
 “in the north-eastern portion of your district. The Old Row,
 “Usworth Colliery; the Old Row, Washington; Engine
 “Square, Mill Pit, Engine Pit, Waggonman’s Row, are repre-
 “sentative of the class of house totally unfit for human
 “habitation,” and he urges his District Council to deal with
 the many insanitary houses which exist in the district. During
 the year a great improvement has been effected in the district
 by the abolition of ashpit-privies, no fewer than 443 having
 been removed and their place taken by 509 ashclosets and 24
 waterclosets. The work of scavenging and house refuse
 removal has generally been performed satisfactorily, but it
 requires careful supervision by the Sanitary Inspectors. Dr.
 Taylor thinks that the work would be more efficiently done at
 no extra cost, at any rate in the more populous townships,
 either by arranging for larger scavenging areas or by the
 District Council themselves undertaking the work by their own
 plant and men. All the populous places in the district are now
 scavenged by contract, and the annual cost amounted to nearly
 £5,000.

A considerable portion of the report deals with
 the sanitary improvements effected in the different
 townships, many noticeable ones having been made
 or arranged for in the townships of Birtley, Chester-le-
 Street, Harraton, Lamesley, Urpeth, Usworth, Waldrige,
 Washington and Witton Gilbert. The report recommends the
 sewerage of Vale Pit, and the adoption of the additional

clauses of the Town Police Clauses Act in the Birtley township ; the provision of improved drainage and water supply at the Furnace, in the Chester-le-Street township ; the systematic conversion of offensive ashpit-privies into ashclosets in the Edmondsley township ; the reconstruction of conveniences and the proper sewerage of a portion of Eighton Banks, in the Lamesley township ; the reconstruction of conveniences and the provision of proper sewerage for the Ouston, Pelton and Urpeth townships, and the reconstruction of the houses at Urpeth Square, also in the last-named township ; the adoption of the Private Street Works Act respecting many parts of Usworth township and the provision of additional house accommodation in that township ; the reconstruction of insanitary conveniences and the adoption of the Private Street Works Act, and the application of the Housing of the Working Classes Act to many insanitary houses in the Washington township.

As regards dairies and cowsheds, some improvements in a few of the cowsheds were accomplished during the year, but many of them still remain defective, and there is a want of real cleanliness in regard to a large number of them. The dangers resulting from the supply of dirty milk are touched upon, and Dr. Taylor says “ it appears to me that new legislation on the subject of “ milk supply is much required, legislation to enforce “ more cleanliness in cowsheds and to enforce cleansing of milk “ before it reaches the consumer, and to enforce, under the “ sanitary authority, a periodical examination by a veterinary “ surgeon of the cows, especially as to the presence or absence “ of tubercle.”

The three common lodging-houses were stated to have been regularly inspected and generally to have been found in a cleanly state, but bye-laws with regard to slaughter-houses have not yet been adopted. Many of the slaughter-houses, it is stated, are capable of being much improved and of being kept much cleaner. There are stated to be 163 workshops on the register, and 198 inspections of these and 21 inspections of factories were made. Seventeen defects arising from want of

cleanliness, overcrowding and other nuisances were found, and all but one of them appear to have been subsequently remedied. The general sanitary condition of the workshops is stated to have been good.

Sanitary Requirements.

1. The recommendations in the report as to improved housing, sanitary conveniences, and sewerage in the several townships should be adopted by the District Council without delay.

2. Systematic disinfection of all infected dwelling-houses, articles of clothing and bedding.

3. More systematic inspection of dairies and cowsheds.

4. Bye-laws in respect to, and improved supervision of, the slaughter-houses.

5. The adoption of the Private Street Works Act in the townships of Washington and Usworth.

6. Better arrangements for scavenging and refuse removal in the more populous townships.

7. The adoption of Part III. of the Housing of the Working Classes Act, 1890, in certain townships.

DARLINGTON RURAL DISTRICT.

ROBERT H. MEIKLE, M.B., Medical Officer of Health.

Area in Acres, 42,019. Estimated Population, 1906, 9,591.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
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29·1	17·7	1·15	128
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Phthisis death-rate, 1·25. Respiratory diseases death-rate, 1·35.

The total death-rate is rather high for a district which is largely agricultural, and was especially high during the first quarter of the year. No allowance is made in calculating the vital statistics for the natural increase of population since the last census in 1901, and it is probable that the population has increased during the last five years. Dr. Meikle thinks the appointment of a woman health visitor would be instrumental in reducing the infant death-rate. Of the 10 deaths from phthisis enquiry showed that in all but one there was a hereditary tendency.

Infectious Diseases.

The total notifications decreased from 52 to 30, and these included 12 of diphtheria, 8 of enteric fever, and 2 of scarlet fever. Three-fourths of the diphtheria cases occurred at Heighington, and are attributed in all probability to bad drainage and to nuisances resulting from defective scavenging. Only one of the cases ended fatally. Diphtheria antitoxin is supplied gratuitously by the District Council, and advantage is taken of this privilege by medical practitioners. The eight cases of enteric fever were distributed among seven villages, and they had no common origin, but no reference is made in the report to their probable causes. The usual methods of disinfection are stated to have been carried out, and six cases were removed to the Darlington Borough hospital, and Dr. Meikle expresses the opinion that if the fees for patients were reduced more advantage would be taken of the privilege, as no isolation is so safe as that of a hospital. There were seven deaths from diarrhœa, and one from whooping cough.

General Sanitation.

The water supplies of farms received attention during the year, and of 15 samples analysed 14 were reported to be unfit for consumption. Dr. Meikle on this matter says:—
 “Surely this points to a serious state of matters among farmers
 “in a district where dairying is one of the chief sources of
 “revenue, and it is my intention to have samples taken from
 “every farm in the district, and where necessary have defects
 “in same remedied.” Ten other samples of water were also analysed, and three of them were reported on adversely, and the report states that better supplies have either been provided or are being found. It is pointed out in the report that in nearly every township where public scavenging has been adopted there has been a marked decrease in the prevalence of infectious disease. The report records improvements in cottages and their surroundings at Blackwell and Aycliffe, to

yards and conveniences at Cockerton, in the paving of the back streets and in the sewage works at Harrowgate Hill, in the water supply of Sadberge, and to house property in Killerby.

At Brafferton some of the cottages are reported to be in a dilapidated condition, a sewerage scheme is greatly needed for Haughton-le-Skerne, the back streets in Middleton township require to be paved, and public scavenging is advocated in Heighington. The smoke nuisance from the Dinsdale Smelting Works still continues.

A general inspection of dairies and cowsheds was made during the year, and Dr. Meikle says there was a great want of cleanliness in milking cows and an absence of proper ventilation in the cowbyres. Several samples of milk which were taken indicated by the deposit in them a want of cleanliness, and the report advocates periodical bacteriological examination of the milk supplies. The report states that a large number of sanitary improvements have been made during the year, and 103 notices appear to have been served respecting nuisances and sanitary defects. Plans for 91 new houses were approved during the year. Inspections are reported to have been made of the factories and workshops, "and where necessary, conveniences, &c., have been built. In one case only the ventilation was very defective, but that has been remedied." The tabulated statement required to be filled up by the Home Office as to action taken under the Factory and Workshop Act is not appended to the report.

Sanitary Requirements.

1. A pure and adequate water supply to all dairy farms.
2. An improvement in the condition of the cowsheds and in the methods of milking cows.
3. Public scavenging for Heighington.
4. The paving of the back streets at Middleton-St.-George.
5. A system of sewerage for Haughton-le-Skerne.
6. Attention to the dilapidated dwellings at Brafferton.

DURHAM RURAL DISTRICT.

(Eastern Division).

A. T. HARRISON, L.S.A., Medical Officer of Health.

Area in Acres, 15,265.		Estimated Population, 1906, 17,725.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34·4	18·4	2·4	170
Phthisis death-rate, 0·62.		Respiratory diseases death-rate, 2·14.	

With the exception of the phthisis death-rate, which was very low, the chief mortality statistics are not satisfactory, and are generally higher than the county rates. The total death-rate is considerably above the average of the past 10 years.

Infectious Diseases.

The total number notified was 120, which is 12 less than in the previous year, and the most prevalent diseases were enteric fever (72 cases), scarlet fever (25) and diphtheria (11). The cases of scarlet fever were generally of a mild type and only caused one death, the disease being much less prevalent than in former years. Diphtheria also very considerably decreased in prevalence, but the case-mortality was high, 5 deaths occurring, this high mortality being due, in Dr. Harrison's opinion, to the fact that isolation in hospital was impossible, as that institution was already full. Enteric fever became seriously epidemic in the Coxhoe district in the early part of September, and was proved without doubt to have been caused by a contaminated milk supply from a farm which was dependent for its water supply on a grossly polluted well. Some of the later cases were the result of direct infection from earlier cases, while a few others, notably some cases at Coxhoe Square, were also probably caused by the consumption of impure water. The deaths from the disease numbered 9, equal to a case-mortality of over 12 per cent. Every possible precaution was at once taken to limit the epidemic, as many patients as possible (39) being removed to hospital, while a trained nurse was engaged for attending to the patients isolated at home, the excreta of such patients being collected in special pails containing dis-

infectants, the contents of which were subsequently burnt. Careful attention was also given to sanitary surroundings including drainage, milk and water supplies, and notices were issued recommending the boiling of all milk and water before consumption. By December the epidemic was stamped out, as between the 12th of that month and the 23rd February of this year only one case was notified. There were 7 deaths from whooping cough, 3 of them in the Belmont township, and 21 deaths from diarrhoea, 7 of which were in the Coxhoe township and 6 in that of Sherburn. During the year the isolation hospital was provided with a good steam disinfecter.

General Sanitation.

During the year considerable improvements have been made to the water supply of the district, and on this subject Dr. Harrison says "the water supply of the whole of this portion of the district has been receiving careful attention for the last few months; every possible endeavour is being made not only to supply good water to every group of houses, but also to demolish bad or doubtful supplies, and during the coming year I believe that further substantial improvement will be made in this respect." Improved supplies were laid on to houses at Four Lane Ends, Sherburn Hill, to Coxhoe Square, and to 3 dairy farms, while the supply to 20 houses at New Durham has been improved. The supply to Sherburn village is, however, not satisfactory, though the water tank was put into proper repair. As regards house accommodation, improvements were effected at Quarry Row, East Hetton, and Red Row, Quarrington Hill (these improvements were at the instance of the County Council), while the houses at Heysham Terrace, East Hetton, were the subject of notice under the Housing of the Working Classes Act, 1890. At High Pittington and Kelloe, the houses are stated to be too much crowded together. The Inspector also reports that improvements in dwellings were made at Broomside, Bell's Ville, Gilesgate Moor, Sherburn, and Shadforth. The necessity for greater cleanliness on the part of the tenants in certain parts of the

district is urged. In several parts of the district objectionable ashpit-privies have been replaced by ashclosets. The scavenging, which is for the greater portion of the district undertaken by contract, appears to have been fairly well performed, but Dr. Harrison recommends more frequent removal where the conveniences are used by more than one family. The contents of the conveniences are disposed of on land. The report states that the sewerage and drainage of the district have been considerably improved and that the district on the whole is in good order. The Surveyor in his report records improvements in sewerage at Low Pittington, Whitwell, and East Hetton, while new sewers or disposal works are contemplated or have been arranged for at Sherburn Village, Bowburn Colliery, Shadforth, and Ludworth. The pollution of watercourses continues at Low Pittington, Shadforth, Kelloe, and California, but the pollution is stated not to be serious.

Inspection of the lodging-houses and slaughter-houses were made and their general condition is stated to be satisfactory, but one objectionable slaughter-house ceased to be used. The dairies and cowsheds were also frequently inspected and on the whole were found in a satisfactory state. Plans have been passed for a new cowshed in place of one that is insanitary. The factories, workshops and workplaces are reported to have been inspected from time to time, but no details are given, nor is the table required by the Home Office to be filled up by Medical Officers of Health appended to the report.

The Inspector reports that 358 nuisances were abated as the result of the service of 378 notices, and he gives a satisfactory report of the dairies, cowsheds, slaughter-houses, and as to the scavenging work.

The Surveyor reports that the sewers have been regularly and frequently flushed, that plans were passed for 4 new streets and 125 new dwelling-houses, and that all new buildings and house drainage are frequently inspected during construction and on completion to see that compliance with the bye-laws has been made.

Sanitary Requirements.

1. An improved water supply for Sherburn village and for all dairy farms in the district.
2. More frequent scavenging, as recommended in the report.
3. Action under the Housing of the Working Classes Act respecting insanitary dwellings at East Hetton, &c.

DURHAM RURAL DISTRICT.

(Western Division).

EDWARD JEPSON, M.D., Medical Officer of Health.

Area in Acres, 15,788.

Estimated Population, 1906, 13,173.

Birth-rate.

Death-rate.

Zymotic death-rate.

Infant mortality-rate.

30·6

13·6

1·4

131

Phthisis death-rate, 0·98.

Respiratory diseases death-rate, 1·2.

The chief mortality statistics are satisfactory, and compare favourably with those of the previous year. The death-rate from acute respiratory diseases was very low.

Infectious Diseases.

The notifications declined from 108 in 1905 to 72, and the most prevalent diseases were scarlet fever (44 cases), diphtheria (15) and enteric fever (5). Scarlet fever was especially prevalent in the Bearpark township (35 cases), and consequently, and owing to the existence of insanitary conditions, Dr. Jepson caused the schools to be closed for a time. The sanitary defects were subsequently remedied after some delay. The question arose whether it was part of Dr. Jepson's duty to report on the sanitary condition of school premises, but he points out that the subject is one with which the Local Government Board requires the annual reports of medical officers of health to deal. Diphtheria was also prevalent in Bearpark, 7 cases occurring there. There were only 5 cases of enteric fever notified during the year, and none of them had a fatal termination. Two of the cases were at Bearpark and two at Broom, but the report does not refer to

the probable causes of any of them. The report urges the necessity for proper disinfection by some responsible person of houses and bedding which have been exposed to infection, and points out that disinfection when left to the occupier is unreliable and often useless. A prosecution was successfully instituted respecting a case of scarlet fever which had been going about in public whilst in a highly infectious state, and those responsible were heavily fined. There were 5 deaths from whooping cough, 3 of which were at Sunderland Bridge, one from measles and 11 from diarrhœa, the majority of deaths from these diseases occurring in the Broom and Framwellgate Moor townships. During the year 17 cases of scarlet fever (12) and enteric fever (5) were isolated in the Houghall hospital, which has been enlarged by an additional ward and provided with a new laundry and disinfecting apparatus.

General Sanitation.

The report omits reference to many matters affecting the health of the district generally, such as water supply, house accommodation, drainage, &c., but gives details of conditions noted in particular townships inspected by Dr. Jepson during the latter half of the year. These details chiefly refer to the sufficiency of the scavenging on the dates of inspection and to nuisances connected with drainage, and the villages inspected were Ushaw Moor (twice), Bearpark Colliery, Croxdale Colliery, Framwellgate Moor (twice), Hett, Broompark Colliery, Neville's Cross and Brasside. The report deals at some length with the water supply and sanitary state of a number of cowsheds, many of which require to be improved. Dr. Jepson urges that more attention should be given to the milk supply, especially in enforcing strict cleanliness. Reference is made to a complaint as to a nuisance from the refuse tip on Crossgate Moor, but Dr. Jepson does not agree that the complaint was justified. During the summer leaflets were distributed throughout the district as to the feeding and management of infants, and as to the importance of cleanliness of the person

and house. Details are given of three inspections under the Factory and Workshops Act. Defects arising from want of ventilation and sanitary accommodation were detected, but the report does not state what action was taken to remedy them, or whether they were remedied. The Factory and Workshop table is not completely filled up.

The Surveyor reports that the sewers have been frequently flushed and disinfected. He also reports that plans and estimates have been prepared for new sewage disposal works for Bearpark and Crossgate Moor; that a new sewer has been constructed from houses at Lowes Barn to the Stone Bridge disposal works; that subsidences have caused much damage to the sewage disposal works at Ushaw Moor and Neville's Cross; and that the Local Government Board has issued an order for the making of the private streets at Neville's Cross under the Private Street Works Act, 1892. Plans for 4 new streets and 78 new dwellings were approved during the year, and all new dwellings and drainage were inspected during construction.

Sanitary Requirements.

1. A proper system of disinfection of infected houses and infected articles.
2. An improvement in the water supply and general sanitary state of many cowsheds.
3. Better scavenging appears to be necessary in some parts of the district.

EASINGTON RURAL DISTRICT.

JAMES ARTHUR, L.R.C.P., D.P.H., Medical Officer of Health.

Area in Acres, 37,018. Estimated Population, 1906, 49,181.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

36·7

18·8

3·2

174

Phthisis death-rate, 0·89.

Respiratory diseases death-rate, 2·3.

The population of the district is estimated to have increased by more than 2,000 during the 12 months, though the report does not state on what basis the increased population

is calculated. The total and infant death-rates are high and exactly the same as in 1905, while there is a slight increase in the zymotic death-rate. All these death-rates are considerably higher than those for the County, and on this point Dr. Arthur says "as to the health of the district during the year, although "the death-rate does not show any decrease on the previous "year, and is above that for England and Wales, a study of "Table IV. will show, allowing for the unusually large number "of deaths from accidents and the phenomenal fatality from "diarrhoea, inevitable in districts with such a large infantile "population, the result from a demographical point of view is "eminently satisfactory."

There was a considerable increase in the birth-rate, which varied from 26·4 in Easington to 40·5 in Murton. There were 63 illegitimate births, and the mortality-rate among them was more than twice as high as among the children born in wedlock.

Infectious Diseases.

The number of cases notified was 533, an increase compared with 1905, when 463 cases were reported. The most prevalent diseases were scarlet fever (290 cases), diphtheria (87), and enteric and continued fevers (86). Scarlet fever was particularly prevalent in the Wingate township, where nearly half the cases and 4 of the 9 deaths occurred. Diphtheria was slightly less prevalent than in the previous year, and by far its greatest incidence was in the townships of Shotton (30), and Wingate (22), while of the 12 deaths 3 occurred in each of the townships of Wingate and East Murton. Dr. Arthur states that only 5 cases could be connected with sanitary defects, and in only one instance was school attendance suspected, but, "as "usual, in numerous incidences evidence of infection by "personal contact was clearly traced." Three cases were associated with dairy farms, but "isolation and disinfection "were used with such efficiency that no case could be traced "to a family using their milk." There were 50 cases notified as enteric fever, and these occurred in 48 households, and

as to the causation of this disease Dr. Arthur says, “although a few insanitary conditions were noted, no “well-defined origin for any outbreak could be conclusively “determined excepting 6 cases imported ill from outside, the “rest were clearly sporadic and occurring after hot weather “from pre-existing germs that cannot be specifically localised. “This is evident from the fact that only 6 cases occurred in “houses so dirty that its development could be favoured “thereby. All the others were in houses distinctly clean and “free from dirt in the ordinary sense. Only seven cases were “in the first half of the year. More than half were in the “months of September and October. Indeed, considering “the climatic conditions and the large amount of resulting “diarrhœa, the incidence for the year in extent and fatality is “highly gratifying. No case could be traced to water or milk “supply and no case occurred at a dairy or other farm.” The disease was fatal in 12 instances, 3 of the deaths occurring in each of the townships of Shotton, and Seaham, and 2 each in the townships of Kelloe and Wingate. Of the 36 cases of continued fever, 27 occurred in the townships of Haswell and Hutton Henry, but only one of the cases ended in death. Of the 6 cases of puerperal fever, one which was fatal was in the first place attended by a midwife. No case of smallpox was notified during the year. Measles caused 5 deaths, the disease becoming prevalent at New Seaham towards the end of the year, necessitating the closure of the elementary schools there. Whooping cough caused 20 deaths, 13 of which were at Haswell, while diarrhœa was responsible for as many as 101 deaths, its fatality being most marked in the Seaham, Haswell, Wingate, and East Murton townships. Most of the deaths occurred during the months of September and October, but the probable cause of this heavy mortality receives no special mention in the report. The usual precautions appear to have been taken for the prevention of the spread of infectious disease, disinfectants were freely distributed, and “disinfection “of houses and destruction of articles when necessary are

“attended to by your Inspector.” The ordinary isolation hospital has 20 beds and 20 cases were isolated in it during the year. A hospital for small-pox was also erected during the year near Thornley, jointly by the Easington and Sedgfield Rural Councils. Only one case of diphtheria of the 87 notified was isolated in hospital, but in consequence of enquiries by the County Council a special report on the hospital accommodation for diphtheria patients was prepared by Dr. Arthur, and in his opinion and that of his Council the provision is adequate. No reference is made in the report to the use of diphtheria anti-toxin, either at the isolation hospital or in the district, in the treatment of diphtheria patients.

General Sanitation.

The whole of the district, except the old village of Shotton and some of the distant farms, is stated to be well supplied with drinking water pumped from deep wells. One shallow well, which was polluted, was closed by magistrates' order. “The Sunderland and South Shields Water Company “have completed a large new main from Shotton to Dalton “through the centre of the district, which will doubtless be of “immense value to the district in future.”

Under the Housing of the Working Classes Act, notices were served with respect to 53 houses, of which 42 were at South Wingate and 10 at Thornley. Eight of those at Thornley were closed by magistrates' order, the other two being made habitable, but as to the South Wingate houses “the Council did not follow up by seeking closing orders “because of the evident hardship that would necessarily ensue “to the tenants, as these constituted a majority of the houses “in that village. The Council insisted, however, that suitable “repairs must be made to the houses, and this, though no “doubt tardy, is being done.”

At Shotton there are stated to be a number of insanitary houses requiring attention. A large number of new houses were erected during the year, the number exceeding anything on record. In addition to a large number of private dwellings

in different parts of the district, the colliery companies erected 470 workmen's dwellings at Horden, 59 at Shotton, and 245 at Wheatley Hill, and some of these were provided with baths. A good deal of improvement in the sanitary condition and surroundings of old property is also reported, and at Seaham 187 ashpit-privies were abolished in favour of ashclosets. Improvements in the making of streets and footpaths were effected, notably at Wheatley Hill. Action under the Private Street Works Act is contemplated for the whole of the village of Station Town, and for Rodwell Street, Trimdon.

The report gives details of extensions of sewers in different parts of the district, and reports the construction of sewage disposal works for Murton and Cold Hesledon, for Castle Eden village, for Castle Eden Foundry, and for Trimdon Foundry and Deaf Hill. Except at Seaham Colliery, where the work is performed by the Colliery Company, the entire work of scavenging and cleansing of the district is stated to be undertaken by the District Council, who let it out to contractors. "The cleansing of the sewers, cesspools, settling tanks, and "filters continues to be performed satisfactorily by your "permanent staff."

The three common lodging-houses, two at Easington and one at Shotton, "are regularly inspected as to cleanliness and other "conditions," and the slaughter-houses, though not registered, are reported to have been regularly inspected, and any foul and insanitary conditions remedied. The cowsheds and dairies are stated to have been the subject of more rigorous inspection, and special attention is given to the water supply, and of the 37 dairies, 18 obtain their water "supply from public water companies;" for the others where this is not obtainable, "that used is not always so desirable as it should be, and will "be improved as far as practicable." The report deals at some length with the administration of the Factory and Workshop Act, and frequent inspections appear to have been made. There are 13 factories, 86 workshops, 13 workplaces, and one bakehouse on the register.

In the Inspector's department 349 informal and 27 statutory notices were served for the abatement of nuisances, most of which appear to have been remedied.

Sanitary Requirements.

No special recommendations are made in the report, but it is evident that there is much insanitary property in the older parts of the district which requires attention.

An improved water supply to many of the dairy farms appears to be desirable, as is also the registration of the slaughter-houses.

HARTLEPOOL RURAL DISTRICT.

T. G. AINSLEY, M.D., Medical Officer of Health.

Area in Acres, 19,090. Estimated Population, 1906, 2,355.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

27·1

13·1

1·2

109

Phthisis death-rate, 0·42.

Respiratory diseases death-rate, 2·1.

Owing to the building of suburban residences on the outskirts of the Borough of West Hartlepool, the estimated population is increased by 52. The chief mortality statistics are satisfactory, though not so low as in 1905. Deaths in the workhouse, &c. (125), of persons not belonging to the district are excluded from the statistics, as is also the population of the workhouse (700).

Infectious Diseases.

There were 11 notifications, or 3 more than in 1905, and they comprised 10 of scarlet fever and one of puerperal fever. Eight of the scarlet fever cases were in Elwick Hall parish, and were principally children attending school, where a mild unrecognized case had been attending. The school was disinfected and the outbreak stopped. The case of puerperal occurred in the Hart parish. The zymotic deaths were one from scarlet fever, and 2 from diarrhoea among infants. There were also 2 deaths from influenza among old people. One case of scarlet fever was isolated in hospital, and four houses were disinfected after infectious disease.

General Sanitation.

The water supply from the Greatham well was insufficient in quantity, "and if this does not improve shortly it "must be radically dealt with." Three samples of well water which were analysed were found to be polluted, and the wells were subsequently cleaned out and the defects remedied. The quality of the water supply to Hart and Greatham is stated to be excellent. Owing to faulty construction and want of fall, the Greatham sewer is stated to require frequent flushing and attention to keep it in order, but the drainage of other parts of the district was satisfactory. The Greatham sewer was extended 300 yards nearer the sea to remedy a nuisance from stagnating sewage. The dairies and milk farms were inspected and "found on the "whole fairly satisfactory." Under the Factory and Workshop Act 14 inspections were made, but no defects were found which required formal action to be taken. There are 16 workshops on the register. The inspector reports that 38 nuisances were remedied as a result of the serving of 40 informal and 6 formal notices. The chief defects were in connection with ashpits and privies (10), house drainage (8), cowsheds (7), and deposits of refuse and manure (5),

Sanitary Requirements.

The only matters which appear to require attention are :—

1. The main sewer at Greatham, and
2. The insufficient water supply from the Greatham well.

HOUGHTON RURAL DISTRICT.

(Northern Division).

D. S. PARK, F.R.C.S., Medical Officer of Health.

Area in Acres, 8,398.

Estimated Population, 1906, 15,750.

Birth-rate.

Death-rate.

Zymotic death-rate.

Infant mortality-rate.

38·4

15·4

1·8

145

Phthisis death-rate, 0·95.

Respiratory diseases death-rate, 1·84.

There is a considerable rise in the birth-rate, but the chief mortality statistics are fairly satisfactory, though they are slightly less favourable than in 1905. The death-rate among illegitimate children was three times as high as among those born in wedlock. Dr. Park urges that simple courses of lectures should be given to the elder girls in the elementary schools on the feeding and management of infants.

Infectious Diseases.

The total notifications declined from 182 in 1905 to 80, and these latter included 47 of scarlet fever, 14 of enteric fever, and 8 of diphtheria. Dr. Park reiterates the opinion that scarlet fever is spread by indiscriminate visiting at infected houses, and by the disregard of ordinary precautionary measures. The cases of diphtheria occurred chiefly in the Newbottle and Penshaw townships, and the disease was only fatal in one instance. Dr. Park strongly recommends the gratuitous supply of diphtheria anti-toxin to all medical men. The beneficial effect of the fluid, when used early in the treatment of the disease, is beyond question, and its use should be encouraged in every possible way. Enteric fever was most prevalent in Newbottle (8 cases) and Penshaw (5). Dr. Park thinks that this disease and diarrhoea may be spread by infected material being scattered about during scavenging. He adverts to the risk of in that way infecting drinking water during its conveyance in open receptacles from outside taps to the dwellings, and he welcomes with pleasure the willingness of the colliery owners to lay the water pipes into the houses at Sunnyside and Newbottle, and he says “ I “ trust the miners and others interested in the question will give “ the matter their serious consideration. If carried into effect, “ it would add greatly to the comforts of the home, and “ materially lessen the work of the household, and practically “ put an end to the contamination of the water in open vessels, “ to which I have just referred, and which is a real danger to “ the public health.”

Only one case of infectious disease was removed during the year from the district to the isolation hospital partly owing to it being reserved for small-pox, but mostly owing to the unwillingness on the part of the inhabitants to avail themselves of hospital accommodation. This, Dr. Park points out, is unfortunate, as proper house isolation is in the majority of cases impossible. He points out that of the 112 cases treated in the hospital since its erection, not a single return case has ever taken place, and he says "it is only by educating the people to a sense of their duties and obligations to others that this lamentable indifference can be overcome. Health lectures should be given all over the County with special reference to the spread and propagation of infectious diseases and the measures to be taken to prevent and arrest the spread of such diseases." The inhabitants of the district also object to their articles of bedding and clothing being disinfected in the Council's portable disinfecting apparatus, but it is difficult to understand why disinfection of infected articles in the apparatus is only insisted on by the District Council when the patient is removed to hospital. Disinfectants are supplied to infected houses, but only 6 lots of bedding were disinfected in the disinfecting apparatus. Four schools and 17 houses were disinfected by sulphur. Plans and specifications have been approved for the new joint small-pox hospital, and Dr. Park urges its erection without delay. In a special report to his District Council, respecting a communication from the County Council, Dr. Park expressed the opinion that adequate hospital accommodation for diphtheria existed in the district. Measles caused 3 deaths, whooping cough 1, and diarrhoea 18, 15 of the last-named being those of children under one year of age. In connection with the prevalence of diarrhoea, Dr. Park states that many of the conveniences are close to pantries and back doors, and, owing to the carelessness of the people, become very offensive.

General Sanitation.

The water supply of the district appears to be fairly satisfactory, and 5 samples, which were analysed from different sources, were all reported on favourably. Newbottle and Grasswell and Bank Head districts are now supplied by the Sunderland and South Shields Water Company, and the supply to Old Penshaw, East Barnwell, and Penshaw Hill has been improved.

No action was taken under the Housing of the Working Classes Act, 1890, during the year, but 137 new dwellings were erected in the district, mostly at Old and New Penshaw (60), Silksworth (29), Dubmire (17), and New Herrington (17).

The report states that the Lambton Collieries Company have a large staff of men engaged in keeping in repair the houses under their control. Improvements in the dwellings at Spout Head have been made, and the yard paving of a number of houses at Dubmire and New Herrington has been improved. The drains and sewers in the district appear to have been properly flushed, and the effluents from the sewage disposal works to have been satisfactory. Reference is made in the report to a nuisance which arose from the deposit of foul ashpit refuse, and steps were immediately taken for its abatement. The report deals with the milk and meat supplies of the district, which appear to have been satisfactory, and details are given of action taken with respect to cases of overcrowding, foul condition of dwelling-houses, and animals improperly kept. The scavenging is stated to have been carried out more regularly and more systematically than in former years, the district being divided into 15 scavenging districts, and the contracts in each case let for a period of three years. There is stated to be still room for improvement in the scavenging.

The new streets at Penshaw, with the exception of Rose Street, are stated to be still in a deplorable condition, especially in wet weather, and the District Council is urged to press the matter forward.

The factories and workshops are reported to have been inspected in the usual way and to have been found in accordance with the requirements of the Act. No tabulated statement is attached to the report.

Sanitary Requirements.

1. The District Council should provide a supply of diphtheria anti-toxin for necessitous cases.
2. The erection of a small-pox hospital.
3. The making of the streets in the Penshaw district.
4. The abolition of insanitary ashpit-privies.
5. The laying-on of a supply of water to the houses at Sunnyside and Newbottle.

HOUGHTON RURAL DISTRICT. (Southern Division).

J. R. SUTHERLAND, L.R.C.P., Medical Officer of Health.

Area in Acres, 4,794.		Estimated Population, 1906, 5,005.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35·3	17·9	2·3	152
Phthisis death-rate, 0·99.		Respiratory diseases death-rate, 3·19.	

The chief mortality statistics compare unfavourably with those of the previous year. Dr. Sutherland recommends the distribution by the registrar of instructions on the feeding and management of infants to those registering births. He also thinks that the appointment of a suitable health visitor is even more desirable.

Infectious Diseases.

There were 29 notifications, which is 13 less than in the previous year. Diphtheria (12 cases) and scarlet fever (11 cases) were the most prevalent diseases, and Dr. Sutherland was unable to discover the cause of any of the cases, which appear to have been the result of direct infection. No case of enteric fever was notified during the year. There were

7 deaths from measles, 6 of which were in East Rainton, and 4 from diarrhœa, of which 2 were at East Rainton and 2 at West Rainton. Three cases from the district were removed to the isolation hospital, which also received 48 patients from the Hetton urban district. No reference is made in the report to the methods of disinfection adopted. The contract for the erection of a joint small-pox hospital, available for the district, was let during the year.

General Sanitation.

With the exception of the village of Moorsley, which is supplied by the Colliery Company, and Rainton Bridge and Rainton Meadows, which obtain their supplies from springs in the neighbourhood, the district is supplied with drinking water by the Weardale and Consett Water Company. During the summer the Moorsley water supply was not altogether satisfactory, but after cleaning out the reservoir, it was pronounced to be all right again.

As to the house accommodation of the district, the dilapidated and insanitary condition of many of the dwellings at Middle Rainton is again referred to, and Dr. Sutherland says more of the houses will have to be closed. At Grainger Terrace, Pit House Lane, Wood Row Leamside, and at Moorsley and High Moorsley, an improvement in the sanitary condition of many of the dwellings appears to be desirable, though some slight improvements were made during the year. At Johnson's Row, West Rainton, improvements were made in the conveniences, but the roads at the Freehold continue in a bad condition. The scavenging appears to have been fairly well performed, and the scavenging contracts are now extended to 3 years, the district being divided into 6 scavenging districts. Short reference is made in the report to the condition of the dairies, milkshops, cowsheds, and slaughter-houses, all of which are reported to be kept in fairly good condition with the exception of 2 cowsheds at Homer Hill and Middle Rainton, which are unsuitable for keeping cows in for dairy purposes. As regards the cowsheds, Dr. Sutherland says "the byres, although

“old and not constructed to comply with modern requirements, “have generally been kept clean and in good order.” The report states that there are no lodging-houses in the district and only one workshop, which was well lighted and ventilated.

Sanitary Requirements.

1. The making of the roads at the Freehold.
2. Action under the Housing of the Working Classes Act respecting insanitary houses at Middle Rainton, &c.
3. Improvements in the condition of many of the cow-sheds, notably those at Homer Hill and Middle Rainton.

LANCHESTER RURAL DISTRICT.

(Lanchester Division).

J. WILSON, M.D., Medical Officer of Health.

Area in Acres, 29,949. Estimated Population, 1906, 20,000.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

39·5 15·8 2·1 166

Phthisis death-rate, 0·90. Respiratory diseases death-rate, 2·90.

There was a considerable increase in the birth-rate, while the chief mortality-rates compare favourably with those for 1905, but the infant mortality-rate exceeded that for the County.

Infectious Diseases.

The total cases notified numbered 61, a decline of 43 when compared with the previous year. Scarlet fever was the most prevalent disease, with 35 cases, 3 of which proved fatal, but at no period did it assume an epidemic character. There were 3 cases of diphtheria (1 death), but no reference is made to their probable cause. Enteric fever was responsible for 9 cases, and with respect to them Dr. Wilson says, “I “visited the houses in which the patients resided and found “the drains, sinks, and surroundings sanitary and satisfactory, “which makes it most difficult to decide as to the cause of the “disease.” Two of the cases terminated fatally. It is satisfactory to note that all the cases of scarlet fever, with 2

exceptions, and all those of enteric fever, except one, received treatment in the isolation hospital. Disinfection of infected articles and bedding is carried out in a modern disinfecting apparatus at the isolation hospital.

General Sanitation.

The whole of the district is stated to be well supplied with water from the Weardale and Consett Water Company, and to be also generally provided with proper sewers and house drains, which are subjected to inspection and flushed during dry weather. Sewage disposal works have been constructed for the disposal of the sewage in most portions of the district. A new system of sewerage has been provided for Wilks Hill and Quebec, and the sewers have been extended at Langley Park. The improvements effected during the year also include new conveniences and the cementing of yards at William Street, Craghead, and at Langley Park ; and the gradual abolition of insanitary ashpit-privies at Quebec. Defects are reported to exist in connection with the yards of houses at Ushaw Moor, Esh Winning, and at Newhouse Cottages, where some of the houses are back-to-back. Considerable attention is also needed to Hedley Fell Cottages, which were unoccupied for many months and have now been re-tenanted, although they are in a dilapidated state. Respecting this property, Dr. Wilson says “ the owners have either forgotten that the place belongs to “ them or they have intentionally neglected to put the houses “ in a sanitary condition before occupation. The houses should “ be overhauled outside and inside. The channels should be “ relaid in some places and repaired in others. The spouting “ should be arranged for the rain water to run into them, and “ the space between the houses and channels should be “ cemented.”

During the year, 52 ashclosets were erected in place of insanitary ashpit-privies. In the township of Esh the scavenging and removal of refuse is undertaken by contract, but elsewhere it is performed by the colliery owners or private occupiers. Dr. Wilson reports that the condition of the dairies,

cowsheds, slaughter-houses, and the only common lodging-house in the district is satisfactory. During the year 482 nuisances and structural defects were remedied. Under the Factory and Workshop Act, 9 inspections appear to have been made of workplaces, and one notice was served for the abatement of overcrowding.

Sanitary Requirements.

Improvement in the sanitary condition of the occupied houses at Hedley Fell.

LANCHESTER RURAL DISTRICT.

(Medomsley Division).

W. T. BOLTON, L.R.C.P., Medical Officer of Health.

Area in Acres, 21,193.		Estimated Population, 1906, 8,699.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
27·8	12·7	1·6	169
Phthisis death-rate, 0·68.		Respiratory diseases death-rate, 2·3.	

The total death-rate was satisfactory, but the infant mortality is far too high, as it was also in the previous year. No reference is made in the report to this subject.

Infectious Diseases.

The notifications received numbered 53, which is 33 less than in 1905. Diphtheria was the most prevalent disease with 28 cases, 25 of which were in the Medomsley township. The remarks in the report respecting this disease are as follows:—
 “Diphtheria was prevalent throughout the year in the eastern
 “district, children came home ill from school, parents would
 “not have them removed to hospital, were isolated as much as
 “possible.” Twelve of the 13 cases of scarlet fever and 3 of
 the 4 cases of enteric fever occurred in the Medomsley township, but no reference is made in the report as to the probable causes or distribution of any of the cases of infectious disease.

There were 10 deaths from diarrhœa, all the deaths from zymotic diseases occurring in the Medomsley township, which comprises the great bulk of the population. Only 3 cases were removed to the isolation hospital during the year.

General Sanitation.

Information respecting the sanitary condition of the district is mostly confined to short paragraphs relating to individual villages, the only general remarks being the following :—“ The house accommodation has been ample, and the “ dairies and cowsheds have been well kept and the milk and “ meat supply has been abundant and good.” In the different villages improvements are reported at Hamsterley Colliery (better conveniences), and at Allendale and Dene Bank Cottages (yards cemented). At Delves Lane village ashclosets are recommended in place of privies, and respecting Templetown village the report says “ this village has not been in a very “ satisfactory state owing to the narrow yard between the two “ rows of houses with several old and dirty privies. Several “ ashclosets have been put in, and the rest will be removed in “ time.”

Inspection of the district is reported to have been carried out by monthly inspections. As to the Factory and Workshop Act, the report states that there is only one factory, which was twice inspected and found satisfactory. No reference is made to any workshops in the district, and the Home Office table is not appended to the report. The report is incomplete in many particulars, and should contain information as to water supply, house accommodation, sewerage and sewage disposal, condition of dairies and cowsheds, and as to many other matters bearing on the health of the district.

Sanitary Requirements.

1. Improvement in the condition of Delves Lane and Templetown villages.
2. A better approach to Riverside houses.

SEDFIELD RURAL DISTRICT.

FREDERICK HUNTON, M.D., Medical Officer of Health.

Area in Acres, 45,006. Estimated Population, 1906, 26,061.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

34·8

19·5

3·9

198

Phthisis death-rate, 1·07.

Respiratory diseases death-rate, 3·03.

There was an increase of over 2,000 in the estimated population, as during the year 423 new houses were built and occupied in connection with large colliery developments. The total death-rate is the highest for the last 10 years, and this and the high zymotic and infant death-rates are attributed to the unprecedented hot and dry autumn. As regards the high infant mortality, Dr. Hunton points out that 58 of the deaths were the result of either prematurity or some congenital defect, and he adds, "whilst I would urge your Council
 "to use every endeavour to educate, encourage, and assist
 "the mothers in their arduous task of rearing their
 "offspring, I think it was time a warning note was struck, and
 "that we be not too concerned for the survival of the unfit." Dr. Hunton also makes the following remarks respecting women health visitors :—"In view of the large number of
 "deaths from prematurity of birth, I do not see what advantage
 "your Council would obtain by the appointment, as other
 "public bodies have done, of women health inspectors, unless
 "their duties include the inspection and control of what I
 "consider now lies very much at the root of infantile mortality,
 "viz., marital vitality, and regarding this last matter the press,
 "who have done so much good in educating the public on
 "matters of health, would further help in this direction by
 "discontinuing many of the thinly veiled advertisements,
 "which cannot be otherwise regarded than as incitements to
 "abortion." Reference is again made in the report to the present unsatisfactory method of death certification, which must interfere with the accuracy of the causes of death in many instances.

Infectious Diseases.

The total notifications increased from 131 in 1905 to 276, owing to an epidemic of enteric fever and the increased prevalence of scarlet fever and diphtheria. There were 82 cases of scarlet fever, with 6 deaths, but the disease is stated to have generally been of a very mild type, which prevented many of the parents from consenting to the removal of their children to the isolation hospital. Of the 51 cases of diphtheria, 30 occurred in the Trimdon township, though only one of them proved fatal. On the other hand, of the 9 cases in the Ferryhill township, 4 had a fatal termination. No prominent factor in the causation of this disease could be detected. The cases of enteric fever numbered 117, and there were also 7 cases of continued fever. The report deals at length with a serious epidemic of the disease which occurred at Coxhoe and was responsible for 88 cases, and in Dr. Hunton's opinion the chief cause was specific contamination of a milk supply, though the epidemic was influenced by defective drainage and the lack of medical attention, owing to differences between the medical practitioners in the district and the colliery employees. As regards the milk supply, 78 of the patients used milk from a particular dairy, which was dependent for its water supply on a grossly polluted shallow well, and the first 68 cases all obtained their supply from this farm. The sale of milk was at once stopped, careful attention was given to the sanitary surroundings of the infected district, leaflets and posters were circulated urging the boiling of milk and water, as many cases as possible (51) were removed to the isolation hospital, and a trained nurse was engaged to attend those patients who were isolated at home. Special pails were also supplied for the reception of the excreta of patients, and careful disinfection was, as far as possible, practised. At the commencement of the outbreak a serious nuisance existed in connection with the surface water gratings connected with the sewers in the main road at Coxhoe, and Dr. Hunton says "I cannot acquit this defective sewer for not having played some

“part in the epidemic by lowering the health of the individual
 “and thus reducing his resisting power to disease from what-
 “ever source it might come.” Respecting the differences as to
 medical attendance at the time of the epidemic, Dr. Hunton
 says “the third feature of the epidemic was the lack of medical
 “attention, locally known as the doctors’ strike. As to the
 “merits of this, it is no part of my duty to make any comment
 “beyond uttering my conviction (which is shared by most
 “thoughtful men in the profession) that good medical attention
 “is now of such a nature as not to lend itself safely to one of
 “contract at so much per head, and that the sooner this class
 “of practice is abolished the better it will be for the health of
 “all communities. The absence of medical attention in the
 “first few weeks greatly complicated matters in the discovery
 “of cases, many of which I found myself in my house-to-house
 “inspection, and it added much to the hardship of the un-
 “fortunate sufferers, contributing in some instances to a fatal
 “termination when otherwise a more favourable result might
 “have been looked for;” and he adds that matters were not
 improved in this respect by the importation of a medical
 practitioner who obstinately refused to recognise the disease as
 enteric fever. Although the first case of enteric fever at Coxhoe
 did not occur until the second week in September, the
 epidemic was stamped out by the end of October, and only 2
 cases were notified during the remaining two months of the
 year. On the value of the new isolation hospital Dr. Hunton’s
 own words might with advantage be quoted:—“The duration
 “of the epidemic especially when the unparalleled dislocation of
 “the medical service in the district, with the other factors
 “related thereto, is considered, was a commendably short one,
 “for at one time matters looked as threatening as in any of the
 “historic outbreaks of Maidstone or Lincoln. With regard to
 “the treatment, to which I attribute the above result, your
 “Council is to be congratulated upon having used with a
 “promptitude, lacking that grumbling hesitation and wearis-
 “some discussion not unknown to public bodies, the utmost

“ powers with which you were invested to deal with so serious
 “ a state of affairs. Personally, though we all recognise how
 “ easy it is to be wise after we know, I am not aware of having
 “ left undone anything which I might have done. This I might
 “ have hesitated to record had not the recognition of my ser-
 “ vices been confirmed by a public vote of thanks both
 “ from your Council and the inhabitants of Coxhoe. But of
 “ one thing I do claim to be justly proud, and that is of your
 “ isolation hospital, the need of which I had long urged, even
 “ if the building of it by your Council has locally earned for it
 “ the name of ‘Hunton’s Folly.’ This institution in the very
 “ first year of its existence became the very crux and turning
 “ point of the whole situation, being the means of preventing
 “ and relieving untold suffering, besides saving many valuable
 “ lives and hundreds of pounds of the ratepayers’ money. If
 “ this be folly, who would be wise.” In the Ferryhill district
 4 of the 6 cases were associated with open ashpit-privies, the
 other 2 being imported, while of the 12 cases in the Trimdon
 district, 5 were associated with insanitary conditions. Three
 cases occurred among the staff of the isolation hospital, but
 fortunately all recovered, and there were 2 cases in the Durham
 County Asylum. Of the 7 cases of continued fever, 6 were
 immediately traced to the stench arising from the carting of
 town manure from Elstob siding in the hottest days of Septem-
 ber, and the report recommends that leading should be
 prohibited from the siding after 8 a.m. in the summer.

Measles caused 5 deaths, all of them in the Ferryhill
 township, and Dr. Hunton expresses the opinion that school
 closure on account of this disease is of little value, unless early
 information is obtained. There were 10 deaths from whooping
 cough, all of them in the mining areas of Ferryhill, Cornforth,
 and Trimdon, and there were 55 deaths from diarrhœa, all,
 with one exception, also in the same mining districts.
 Respecting this disease Dr. Hunton says, “I think this
 “ disorder might be very justly ascribed to climatic conditions,
 “ which cause dirt in the food and surroundings, and lower the

“resistance of the person affected. As a striking proof of this
 “opinion, all the deaths so recorded, except one (in this
 “instance also the disease was contracted in a town), are almost
 “equally divided among the dirtiest townships of your district,
 “viz., Ferryhill (21), Cornforth (23), and Trimdon (18). To
 “obviate this state of affairs I have urged for years the making
 “of proper streets, for with all the best endeavours in the
 “world the residents in these localities cannot escape from the
 “dust which blows in upon them like a stinking Sahara in
 “summer, and engulfs them in a veritable slough of despond
 “in winter.” The total number of cases removed to hospital
 during the year was 75, and as to the value of hospital treatment
 Dr. Hunton says :—“only those who have experienced infectious
 “disease in their own households can speak with any authority,
 “and even when the house is large enough to thoroughly isolate
 “the patient the trouble entailed in carrying out this is a serious
 “matter, but when the accommodation is limited the hospital
 “becomes, as it really is, the necessary ‘spare room’ for the
 “treatment of infectious disease in the district. If this point
 “of view would be more frequently adopted few cases would
 “occur, and those unfortunates who did develop the disease
 “would have a much better chance of recovery by early removal
 “than, as in past experience, by leaving them until they were
 “in extremis.”

At the end of the year the joint hospital for small-pox was approaching completion.

General Sanitation.

The district is stated generally to be well supplied with water, but in the more rural parts of the district a number of farms and dwellings are dependent on shallow wells, and of 6 samples analysed from such wells 5 were unsatisfactory. The enteric fever epidemic at Coxhoe was a severe object lesson of the dangers of shallow well water, and on this point Dr. Hunton says, “in my report to your Council in 1898, when dealing with
 “the water supply of Sedgefield, I drew your attention to the
 “dangers of wells such as this, for they may continue safely

“for years, and then, under climatic conditions such as
 “experienced in the existence of long continued drought,
 “followed by exceedingly heavy thunder showers, they become
 “contaminated, and their dangerous character is revealed. I
 “would, therefore, recommend your Council that wherever it is
 “possible, wells be replaced by a public supply, and when such
 “cannot be reasonably obtained, that the water from them be
 “analysed annually.”

The state of the sewerage, in Dr. Hunton's opinion, leaves much to be desired, flushing and ventilation being defective, while some of the old sewers require to be relaid. He recommends systematic flushing, especially in hot weather, and for that purpose advises a flushing cart for each of the townships of Sedgefield, Ferryhill, Cornforth, and Trimdon. The existing sewage disposal works are reported to have worked satisfactorily, except those at Coxhoe, the defects of which have since been remedied. The new works for Ferryhill Station district and Bishop Middleham were under construction and had been contracted for respectively.

Except at Sedgefield, the scavenging by contract has only been fairly satisfactory, and the report states that in the northern portion of the district the Inspector has almost to be a foreman scavenger to get the work decently done, “and I am
 “certain it will never be done efficiently until your Council
 “undertake the work in that portion of the district.” The report urges that the scavenging in the populous districts should be done at night time, and also that the streets in the townships of Cornforth, Trimdon, and Ferryhill should be properly paved. The dairies and cowsheds are stated to have been properly inspected, and 147 notices were served upon their owners for the abatement of nuisances, limewashing and cleansing. The 2 lodging-houses have also received attention, and the necessity for a good class of common lodging-house, especially in the Ferryhill district, as a means of relieving the overcrowding resulting from the taking in of lodgers, is advised. During the year, 44 inspections of workshops were made, and at the end of the year the workshops on the register numbered

22, and their condition is stated to have been satisfactory. During the year, 646 nuisances were abated, 65 statutory notices being served, as well as a large number of informal notices by the Inspectors. One hundred and twenty-eight defective ashpit-privies were dealt with during the year, and Dr. Hunton expresses the hope that a greater number of these objectionable structures may be dealt with next year.

Sanitary Requirements.

1. A proper water supply for all dairy farms.
2. An improvement in the condition of the sewers and in their flushing and ventilation.
3. The making, paving, and channelling of the streets in the townships of Cornforth, Trimdon, and Ferryhill.
4. The abolition of insanitary ashpit-privies.
5. Better scavenging—the work to be done at night time in the populous districts.

SOUTH SHIELDS RURAL DISTRICT.

W. ARMSTRONG, L.R.C.P., Medical Officer of Health.

Area in Acres, 12,073.		Estimated Population, 1906, 11,541.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
30·5	12·5	1·4	101
Phthisis death-rate, 0·95.		Respiratory diseases death-rate, 0·78.	

The chief mortality statistics are very satisfactory, and they compare favourably with those of the previous year. In the Union Workhouse there were 301 deaths of persons not belonging to the district, which were excluded from the statistics, and the population in the Workhouse is not included in the district population.

Infectious Diseases.

The number of cases notified was 160, or 15 more than in the previous year, and they include 75 of scarlet fever, 48 of diphtheria, and 16 of enteric fever. The majority of the cases of scarlet fever (41) occurred in the Whitburn township, but the disease was evidently of a very mild type, as not a single death from it occurred in the district. The cases of diphtheria were

chiefly confined to the Whitburn and Boldon districts. Respecting this disease Dr. Armstrong says "I am still of the opinion that both diphtheria and scarlet fever are often spread owing to mild unrecognised cases attending the elementary schools, and the opinion I expressed last year that a regular inspection of these schools, and the school children, should be made by the Medical Officer of Health still holds good." Only 3 of the enteric fever cases occurred at Boldon Colliery, a great improvement on former years, and of the other cases, 5 occurred in the Whitburn township, 3 in Boldon and 3 in the Workhouse. The number of cases removed to the isolation hospital was 48, and the hospital also accommodated 51 patients from Southwick and 7 from other districts. All bedding, clothing, &c., is either disinfected at the hospital by steam, or by sulphur or formaldehyde at home, and 5 lots of bedding were destroyed. There were no deaths from measles or whooping cough, and of the 9 deaths from diarrhoea 6 occurred at Boldon Colliery and 3 in the Whitburn township.

General Sanitation.

The water supply is generally satisfactory, except that some of the outlying farms obtain their supplies from wells which are not wholly satisfactory. The sewers and drains are stated to be in good condition and sufficient for the needs of the district. The scavenging of the district is done by contractors in a generally satisfactory manner, the refuse being used on agricultural land, except that from Boldon Colliery, which is carted to a tip, and at Marsden where it is tipped into the sea. During the year 54 new houses were erected, and supervision is exercised over all new buildings by a building inspector appointed by the District Council.

The dairies and cowsheds were systematically inspected and their sanitary condition is stated to be good. "More attention is now paid to the washing and scouring of vessels, and the limewashing of byres; the dairies now are kept solely for the storage of milk, butter and eggs, and not used as a store closet for anything, as was formerly the case."

Attention was also given to the butchers' shops and slaughter-houses, and 8 notices were served in connection with them, but their actual sanitary condition is not referred to.

During the year 182 nuisances were abated, 72 formal notices having been served, and in two instances the offenders were prosecuted and fined.

Under the Factory and Workshop Act 32 inspections were made of the workshops and 12 written notices served in respect to defects arising from want of cleanliness and sanitary accommodation, &c., and in all but two instances the defects were remedied. Details of the condition of individual workshops are given in the report, from which it appears that the sanitary accommodation in some instances might with advantage be improved.

The report deals at considerable length with inspections of individual properties and gives details of defects ascertained and remedied and requiring attention.

Among other matters, improvements to the schools at Boldon Colliery and Marsden were made, and defects required to be remedied at Harton village school. Improvements in dwelling-houses and their surroundings were made at Boldon Colliery and others are contemplated, and improvements in the paving of streets and in ventilation of the sewers were also carried out at this place.

Sanitary Requirements.

The following are mentioned :—

1. Separate hospital accommodation for diphtheria cases.
2. The provision of sanitary pails for receiving the excreta of typhoid patients.
3. The erection of public urinals.
4. Defects mentioned as existing at individual properties, to some of which attention has been drawn in previous reports, should also receive attention.

STOCKTON RURAL DISTRICT.

J. W. BLANDFORD, L.R.C.P., Medical Officer of Health.

Area in Acres, 34,539.		Estimated Population, 1906, 18,486.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
26·2	14·2	2·5	158
Phthisis death-rate, 0·54.		Respiratory diseases death-rate, 1·94.	

Although the total death-rate was fairly satisfactory, the chief mortality statistics, with the exception of phthisis, compare unfavourably with those of the previous year. The report refers to the serious decrease in the birth-rate and to the high infant death-rate, and Dr. Blandford says “these statistics are not only local, but apply to the country at large, and are a very serious question for the welfare of Great Britain. They can only result from a determination by the parent to interfere with natural procreation, and also to interfere with the natural sustenance of the children that are born. I believe that many methods are adopted to prevent conception, and when conception has taken place steps are taken to prevent the completion of gestation, and I am sorry to say that this applies largely to the married portion of the community as well as where the conception is of an illegitimate nature. Where the child is born there is not the natural desire to feed it as nature requires, but to replace its natural feeding by artificial methods, which tend to debilitate the infant so as to lead to a delicate life, or death, either from being unfit to bear the numerous infantile diseases and strains of early development, or from the delicate life not being able to get nutrition from the artificial methods of feeding, so inferior to that which nature provides and intends. I am very much afraid that nature being interfered with in her natural methods will ultimately have the effect that she will cease the energy of reproduction, and the organs will be weakened in the future generations. This is what takes place in many other animals, and I very much fear it will take place in the human animal.”

The death-rate varied from 10·9 in the Whitton township to 21·4 in the township of Cowpen Bewley.

Infectious Diseases.

The notified cases decreased from 223 in 1905 to 149, and the most prevalent diseases were scarlet fever (100 cases), diphtheria (17), and enteric fever (17).

Nine-tenths of the cases of scarlet fever occurred in Norton (40) and Billingham (50), but the disease was of a mild type, and only one death occurred.

Of the cases of diphtheria, 7 occurred at Eaglescliffe, and Dr. Blandford says it is very difficult to trace the origin of some of the cases, which, he concludes, must be sporadic. Of the enteric fever cases, 7 occurred in Norton and 6 in Billingham, and Dr. Blandford thinks that the drainage was not responsible for the cases, and he says "some of them may have been the result of the storing of excremental and decomposing matter on the premises too long. I would strongly recommend the frequent cleansing of receptacles for refuse, and see that the scavenging contractors carry out their contracts at all times of the year, especially in the hot weather of summer."

There were no deaths from measles, but whooping cough was fatal in 7 instances, and was prevalent in Norton and Haverton Hill. The report points out how difficult it is to prevent the spread of this disease, as "the public opinion that it is a painful and troublesome disease, but not a fatal one, leads to the intercommunication which I think would be avoided if the true estimate, that it is one of the most fatal of infantile diseases, were known." Diarrhœa caused 31 deaths, of which 14 were in Billingham and 7 in Norton, and Dr. Blandford thinks many of them might have been avoided if the infants had been naturally fed. Twenty-eight cases of infectious disease were isolated in the Stockton Corporation Hospital, the arrangements for such isolation being satisfactory in every way.

General Sanitation.

The greater part of the district is well supplied with water from the Tees Valley Water Board, but the agricultural parts of the district obtain a portion of their supply from pumps. The public supply to Wolviston, owing to want of pressure, was not satisfactory. During the year 18 new houses were occupied, the majority of them being situated in the townships of Norton and Billingham. Nearly the whole of the district is provided with properly constructed ashclosets, the contents of which require frequent removal, but in some parts of the district, notably Norton, the scavenging has not been altogether satisfactory, and systematic and frequent cleansing is advocated. The existing sewers are stated to have acted well, but new sewers are required in Norton and Billingham, as are also sewage disposal works for the townships of Whitton and Wolviston. There are no common licensed lodging-houses in the district, and Dr. Blandford does not think there is any overcrowding. Proper attention appears to have been given to the sanitary condition of the dairies, cowsheds, and slaughter-houses. Some improvements were made to a horse slaughter-house, but its condition is not yet satisfactory, though owing to its position it will probably not cause a nuisance. Inspections of the district were made during the year, and a large number of nuisances were abated, but no legal proceedings were necessary. Every case of infectious disease was also visited. During the year 64 inspections of workshops and workplaces were made, and 4 written notices served respecting want of cleanliness, and the defects were remedied. There were 12 workshops on the register, and 2 lists of outworkers were received.

Sanitary Requirements.

1. More frequent scavenging during the summer months in certain districts.
2. Extension of the sewers in Norton and Billingham.
3. Sewage disposal works for Whitton and Wolviston.

SUNDERLAND RURAL DISTRICT.

ROBERT STOBO, M.B., B.Hy., Medical Officer of Health.

Area in Acres, 6,980.		Estimated Population, 1906, 28,445.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
33·2	15·2	2·9	177
Phthisis death-rate, 0·80.		Respiratory diseases death-rate, 2·35.	

There is an increase of over 3,000 in the estimated population, which was ascertained by multiplying the number of inhabited houses by the figure representing the number of occupants per house at the last census. There was a decrease in the birth-rate of 5·8, in the total death-rate of 3·6, and in the zymotic rate of 1·2 per 1,000 population, but the infant mortality-rate increased from 162 to 177, and was especially high in the Tunstall (210) and Ryhope (210) townships. Improper feeding and carelessness in the management of young children are blamed for the high mortality, which was also favoured by the hot, dry weather experienced during the summer and early autumn. Dr. Stobo refers to the assistance given by the Ryhope Church deaconesses in distributing leaflets concerning the feeding and management of children, and otherwise bringing before the notice of those concerned this grave responsibility, and he says "for this purpose other workers will "be heartily welcomed in every parish in your district. It "would be impossible to estimate the amount of good that "might be done by ladies of education and tact giving some of "their time for the purpose of educating the mothers, especially "when such work is done in a systematic way." Owing to an arrangement with the registrars, the vital statistics for each individual parish are now included in the report. In the two most populous townships of Ryhope and Tunstall the total death-rate was respectively 16·4 and 17·1 per 1,000 while in the township of Ford, with a population of over 4,000, it was only 8·4.

The report embraces the results of Dr. Stobo's investigations on the causation of phthisis and tuberculosis, and his

remarks cover 10 pages, which deserve the careful study of all interested in the prevention of this terrible disease. He refers to the pollution of soil, damp dwellings, defective ventilation and lighting, occupation, family predisposition and previous illness in their relation to the disease, and he also refers to the preventive measures to be adopted. Most of the deductions from Dr. Stobo's investigations were set forth in his annual report for 1905, though his enquiry was not then completed and they were quoted at length in my summary of that report.

Infectious Diseases.

The total number of notifications received was 214, which is 42 less than in 1905. This decrease is entirely the result of the diminution in the prevalence of scarlet fever, the notifications of which declined from 159 to 93. The disease was of a very mild type and was the cause of only one death. By far its greatest incidence was in the parish of Ryhope, where 65 cases occurred. There were 51 notifications of diphtheria, 32 of which were in Ryhope and 14 in Fulwell, but the report does not refer to the conditions which caused and favoured the spread of this disease. The cases were evidently of a very mild type, only one death, equal to a case mortality of 2 per cent., occurring.

There were 36 cases of enteric fever reported, 6 of them proving fatal. No case was traceable to the milk supply, and care was taken to have the discharges from the patients collected and disinfected before being put into the sewer. Dr. Stobo again calls the Council's attention to the excessive incidence of the disease in the parish of Tunstall, where 14 of the cases occurred, and he says "in my annual report for 1905 "I drew your Council's attention to the urgency of the "following requirements for this parish :—

- (a) " A plentiful supply of pure and wholesome water.
- (b) " The complete overhauling and ventilating of the
" present sewers.
- (c) " The continuance of your Council's present work in
" demolishing insanitary conveniences, and erecting in
" their place the more modern ashcloset.

“Until these requirements are fully carried out, I am
“satisfied that we need expect no permanent improvement in
“the incidence of typhoid fever.”

There was one death from measles and 12 from whooping cough, while diarrhoea was especially fatal, causing 64 deaths, all but one of which were those of children under 5 years of age, and the report points out that improper feeding, and soil, air, and food pollution were largely responsible for them. The necessity for cleanliness in the dwelling and its surroundings, in the food, and especially the milk, the provision of proper places for storing food, and the calling in of medical advice at an early stage of the disease, which, it is pointed out, is generally infectious and not only a local ailment of the digestive tract, are urged. The number of cases isolated in hospital was 23, 7 of these being treated in the Southwick and South Shields Joint Hospital. In January, 1907, the new hospital pavilion and administrative block was opened, and “your Council is
“now in possession of hospital accommodation for the treat-
“ment of two infectious diseases, and with some little alteration
“to the old administrative block, it will be possible to provide
“for the separation of three infectious diseases.

“It will be the policy of your Health Department to do
“all that is possible to encourage the removal of infectious
“cases to hospital, as it is impossible to secure perfect isolation
“in the great majority of the workmen’s houses in your
“district.”

During the year 270 visits were paid to infected houses, 203 houses were disinfected, as were also 191 articles of bedding and clothing, while 11 of these were destroyed. The Fulwell day schools were also disinfected owing to the prevalence of measles.

General Sanitation.

Except the parish of Tunstall, the whole of the rural district is well supplied with good water from the Sunderland and South Shields Water Company. The efforts of the District Council to induce the Water Company to provide a supply for

Tunstall have so far been unsuccessful, but negotiations were proceeding, and the importance of their success to the health of the district is again urged. Under the Housing of the Working Classes Act 30 dwellings were dealt with, 5 being closed and 25 made habitable, and the housing question is receiving special attention in the parishes of Ryhope and Tunstall. Application was made for sanction to borrow £21,500 for the erection of workmen's dwellings under Part III. of the Housing of the Working Classes Act, 1890, in those parishes, and a Local Government Board Enquiry into the matter was held soon after the end of the year. Great improvements were effected throughout the district by the abolition of insanitary and dilapidated midden-privies, and during the year 280 ashclosets or waterclosets were erected in place of the old conveniences. The scavenging of the district appears to be well performed by contractors, who undertake to empty the conveniences weekly, and, when practicable, direct from the receptacle into the cart without fouling the back street. The house drainage of the district appears to be satisfactory, and not only are old drains kept under supervision, but drains in connection with new buildings are subjected to the water test, this having been done in 278 instances last year. The dairies and cowsheds have been inspected monthly, and Dr. Stobo says "I believe that the "constant inspection has been very beneficial to these farmers, "and they are now giving more consideration to the cleanliness "of their herds and cowsheds." At 8 farms conditions were not altogether satisfactory, and in a few instances the report says that certain structural alterations for the better ventilation of the cowsheds are necessary. "Further efforts have been "made to improve the general sanitary condition of the farm- "yards and manure steads, and, I believe, with considerable "success. Unless the whole surroundings of a dairy are "above suspicion, there must always be some risk of milk "contamination." No case of infectious disease was traced to the milk supply. Under the Factory and Workshop Act, 59 inspections were made, and 12 written notices served for

defects, which were subsequently remedied. At the end of the year there were 30 workshops on the register and 2 outworkers.

From the inspector's report it appears that 205 informal and 427 statutory notices were served, which resulted in the abatement of 578 nuisances, 54 nuisances remaining unabated at the end of the year. Six formal notices were served under the Housing of the Working Classes Act, and 5 samples of water taken for analyses, but none of them were condemned as unfit for use.

Sanitary Requirements.

1. A proper water supply for Tunstall, and the overhauling and ventilation of the sewers there.
2. Continuance of the work of abolishing insanitary ashpit-privies throughout the district.
3. Improvement in the ventilation of cowsheds where necessary.
4. Practical instruction in the homes by lady workers on the feeding and management of children.

WEARDALE RURAL DISTRICT.

(Derwent Division).

C. J. CONNON, M.B., Medical Officer of Health.

Area in Acres, 13,144.		Estimated Population, 1906, 465.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.

30·1	4·3	Nil.	Nil.
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Phthisis death-rate, nil.	Respiratory diseases death-rate, nil.
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The above figures are very satisfactory.

Infectious Diseases.

No cases were notified, but there were a few cases of whooping cough and influenza.

General Sanitation.

The water supply is stated to be pure and abundant, and a new supply has been provided for a house at Edmondbyres. The house accommodation is ample, but a few of the

older houses are built back-to-back. The general system of excrement disposal is that of the ashpit-privy, there being only two waterclosets in the district.

The district is stated to have been visited several times by the Sanitary Inspector, and to be under Dr. Cannon's constant observation. As regards milkshops and dairies, the report states "there are no places where milk is publicly exposed for sale, though this article is disposed of in small quantities to neighbours by those persons who keep cows. Many of the householders keep one or two cows for their own domestic supplies."

Sanitary Requirements.

None mentioned.

WEARDALE RURAL DISTRICT.

(Stanhope Division).

JAMES BANNERMAN, M.B., Medical Officer of Health.

Area in Acres, 24,864.		Estimated Population, 1906, 2,615.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
22·5	13·0	0·38	84
Phthisis death-rate, 1·14.		Respiratory diseases death-rate, 0·38.	

The chief mortality statistics are satisfactory, and compare favourably with those of previous years. The birth-rate is very low, and was 1·5 below the rate for 1905. The chief industries in the district are whinstone quarrying and lead mining, the latter having taken a new lease of life.

Infectious Diseases.

The notifications numbered 31, the number for 1905 having been 15. Diphtheria was the most prevalent disease (17 cases), and was scattered over the district, except at Rookhope. Seven of the patients attended school at Stanhope where diphtheria had been prevalent, but no special reference is made in the report as to the cause and distribution of this or

the other infectious diseases which occurred. As regards disinfection the report states "disinfectants were supplied gratis by your inspector, and subsequent disinfection of rooms under his supervision." The only death from zymotic disease was one from diarrhoea. One death in an old person was registered from influenza. The report discusses at length the question of providing a hospital for ordinary infectious diseases, and the opinion is expressed that it should be centrally situated for the whole of the rural district, and contain not less than 12 beds; that it be adequately staffed and maintained; and that to be efficient it must be free of charge to the patients isolated. The necessity for a proper ambulance van is also indicated.

General Sanitation.

Improvements in the water supply have been effected at Frosterley and Eastgate, and supplies at Hill End and Snowfield have been freed from risk of pollution. The supplies controlled by the District Council are stated to have been adequate and satisfactory throughout the year. Six new houses have been erected at Frosterley, and 7 others are about to be erected, and Dr. Bannerman says that such enterprise is worthy of all encouragement. The sewerage systems in the district are stated generally to be in good order and regularly flushed, and at Rookhope the scheme is to be extended. The effluent from the sewage disposal works at Frosterley is reported to be good. Reference is made in the report to a few nuisances which have been abated, and 3 byres at Willow Green are stated to have been greatly improved in regard to light, ventilation, and drainage. As to factories and workshops the report states that there are 7 limestone quarries and one whinstone quarry working in the district, and that there are no nuisances connected with them.

Sanitary Requirements.

A proper isolation hospital adequately equipped.

WEARDALE RURAL DISTRICT.

(St. John's Division).

JOHN EASTON, L.R.C.P., Medical Officer of Health.

Area in Acres, 36,096.		Estimated Population, 1906, 3,186.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
21·0	16·6	Nil.	74
Phthisis death-rate, 0·94.		Respiratory diseases death-rate, 0·94.	

The only unsatisfactory features of the above statistics are the very low birth-rate and the total death-rate, which is too high for a country district. The population has been maintained during the year, owing to the steady and regular employment which has prevailed.

Dr. Easton again deals at length with the measures to be adopted for the prevention of tuberculosis, and he says "the gospel of fresh air for both cattle and man should be preached from the house tops, and when this principle is thoroughly driven home to the minds of the people, I am perfectly sure we will hear less and less of consumption." The report quotes from the Report of the Royal Commission on Tuberculosis, showing the relationship of bovine and human tuberculosis, and the importance of guarding the milk supply against tuberculous infection.

Infectious Diseases.

There were only 11 cases notified, as compared with 35 in 1905, and these comprised 7 of scarlet fever and 4 of erysipelas. The report does not mention the distribution of the cases, but states that in each case disinfectants were supplied by the Inspector. There was one death from influenza, the person being over 65 years of age.

General Sanitation.

The water supply throughout the district appears to have been satisfactory, and improvements in drainage have been effected at St. John's Chapel and in connection with several individual houses, while the villages of Wearhead and Cowshill have been sewered, the sewage of the former village

being distributed on suitable land at a good distance from the village. Improvements in the conveniences at St. John's Chapel County School have been made, waterclosets being substituted for old privies, and in several other parts of the district nuisances arising from defective house drains and conveniences have been remedied. A new cowbyre has been erected at Killhope, and 2 existing cowbyres are to be improved. Only 2 new dwellings appear to have been erected during the year.

The slaughter-houses are stated to have been inspected regularly, and, as a rule, to have been kept in a cleanly state.

Under the Factory and Workshop Act, no action appears to have been taken, but no nuisances or defects were found in the two quarries in this district.

Sanitary Requirements.

1. An isolation hospital with suitable ambulance and disinfecting apparatus.
2. Refuse deposits for the different villages.
3. A continuance of the work of improving the cowbyres.
4. The distribution to the public of information respecting the best means of preventing consumption.

WEARDALE RURAL DISTRICT.

(Wolsingham Division).

R. H. O. GARBUTT, L.R.C.P., Medical Officer of Health.

Area in Acres, 21,552.		Estimated Population, 1906, 3,600.	
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
21·3	17·5	1·6	103
Phthisis death-rate, 1·11.		Respiratory diseases death-rate, 2·5.	

The birth-rate is very low and all the mortality statistics above mentioned compare very unfavourably with those of the previous year.

Infectious Diseases.

The notified cases increased from 26 to 101, scarlet fever (83 cases) being seriously epidemic, and, though generally of a mild type, was fatal in three instances. Dr. Garbutt points out that the prevalence of the disease is a very serious matter and emphasises the necessity for an isolation hospital, and he says "I am afraid until a suitable hospital is provided, scarlet fever will continue to reappear periodically." The difficulty of efficient disinfection in a small dwelling, where the patient has been isolated at home, is also indicated. There were 9 cases of diphtheria, all of them of a mild type, and in most cases they were associated with neglected scavenging of the conveniences. None of the 4 cases of enteric fever were connected with insanitary conditions, and 3 of them probably contracted the disease outside the district. There were 2 deaths from diarrhœa, both among children under one year of age.

General Sanitation.

The water supply appears to have been generally satisfactory, and several additional houses have been provided with a supply from the Weardale and Consett Water Company during the year. A house in Meadhope Street is stated to be still occupied, although the closing order was obtained more than two years ago. Insanitary conditions are also reported to exist in connection with three houses in the upper town, to which the Council's attention was drawn more than six months ago, and similar defects exist at three houses at the West End, and Dr. Garbutt says "I would urge upon your Council the desirability of insisting upon these matters receiving attention." The scavenging of the district is stated to have been performed unsatisfactorily by the contractor, and the report says "it is most important that this work should be done well, as owing to the close proximity of the pantries in many houses to insanitary midden-privies, cleanliness in this respect contributes largely to the health of the people. This applies

“ especially to children, and thus renders them less susceptible
“ to disease.”

Plans for 74 new houses were passed during the year and 18 of them were built and are ready for occupation. Several other houses have also been erected and occupied. Improvements in drainage have been made at several farms, and the sewers and sewage disposal works appear to have acted satisfactorily. Improvements in the conveniences and in the footpaths are reported in several parts of the district. Systematic inspection of the district has been made and a number of nuisances remedied, but no improvements in the unhealthy condition of many of the cowbyres have taken place during the year, and two byres are specially referred to as requiring improvement.

Under the Factory and Workshop Act, 13 inspections were made and the workshops were found to be satisfactory as regards conveniences, air-space, ventilation, and cleanliness.

Sanitary Requirements.

1. A hospital for infectious diseases.
2. The substitution of ashclosets or, preferably, water-closets for insanitary midden-privies.
3. An improvement in the scavenging.
4. The remedying of the sanitary defects in the cowbyres.

PORT SANITARY DISTRICTS.

HARTLEPOOL PORT.

S. BIGGART, M.D., Medical Officer of Health.

Hospital.—The number of patients admitted into hospital was 80, a decline of 37 when compared with the previous year. Of these only 2 were removed from vessels, viz., one of small-

pox and one of typhoid fever, the remainder being patients from the boroughs of West Hartlepool (77) and Hartlepool (1). Six of the cases treated in hospital proved fatal. The hospital grounds were enlarged during the year, and the drainage is reported to be now complete. Dr. Biggart expresses the opinion that it is capable of meeting the requirements of the locality for several years. It was decided to appoint a charge nurse instead of a matron in order to prevent overlapping of duties.

Inspection of Ships.—Three cases of infectious disease were imported by vessels arriving at the Port, but one of them, a case of smallpox, was not reported until the man reached Gateshead. Seventy-nine vessels were inspected by the Medical Officer of Health and there were 22 revisits, 53 being inspected on account of sickness, 4 owing to coming from suspected or infected ports, 4 on account of sanitary defects, and 17 for examination of crew and passengers. Careful attention was given to vessels arriving from ports infected or suspected to be infected by cholera and plague but no case of these diseases came under notice. The number of vessels inspected by the Port Sanitary Inspectors was 1,800, and there were 189 revisits, the nationality of the vessels numbering 888 British, 318 Swedish, 235 Norwegian, 139 German, and 109 Danish.

Sanitary Defects.—A tabulated statement is given of the notices served on account of insanitary conditions, the most frequent of which had reference to dirty conditions, want of painting, &c. Altogether 250 notices were served, but the report does not state what compliance was made with them.

RIVER TYNE PORT.

W. EDMUND HARKER, M.D., D.Hy., Medical Officer
of Health.

Diseases on Shipboard.—The following cases were reported :—

	On voyage.	On or after arrival.
Small-pox and suspected small-pox	10	5
Measles	—	1
Typhus fever	3	—
Scarlet fever	1	—
Enteric fever.. ..	17	11
Choleraic diarrhœa, &c...	11	3
Malarial fever	31	1
Dysentery	1	—
Influenza	24	

Vessels to the number of 39 were visited by the Medical Officer of Health on account of reported or suspected sickness, and a list of the vessels so boarded, and giving their nationality, port of departure, nature of sickness and general remarks, is tabulated in the report.

During the year, 20 cases were treated in the Floating Hospital and one in the South Shields Borough Small-pox Hospital, the patients all being removed from vessels, and 3 of them suffering from enteric fever died. No cases of cholera or plague were imported during the year.

Vessels from Infected or Suspected Ports.—Including the vessels inspected by the Medical Officer of Health, 448 vessels reported by masters as having had sickness during voyage or on arrival were subjected to inspection by the Tyne Port Officials. In addition, 429 vessels were boarded by the Port Officers on account of their coming directly or otherwise from foreign ports infected or suspected to be infected with cholera, yellow fever, plague, or small-pox. The names of the infected or suspected ports are given in the report.

Emigrants.—The number of known emigrants passing through the port during 1906 was 3,877, and they were all bound for America. All emigrant vessels were inspected and kept under supervision, and information as to emigrants debarking and proceeding overland to other British ports continues to be forwarded to the respective ports.

General Sanitary Work.—The number of vessels inspected by the Port Inspectors was 8,036, and in addition 362 extra visits were paid, as well as 18 visits to water boats and 17 to gangways. Of the vessels inspected, 5,481 were British, the others including 682 Norwegian, 487 German, 400 Swedish, 372 Danish, and 234 Spanish. In 732 of the vessels there were structural defects, and 348 were in a dirty condition. Details of structural defects are given in the report. The number of vessels coming from foreign ports which were inspected was 3,656. Special cargoes inspected numbered 1,553 the majority of the cargoes (1,414) being fish.

Water Supply.—The water boats were examined as usual and their tanks found to be in good condition, while the drinking-water of 66 vessels, which came from ports infected or suspected to be infected with cholera, was changed and the tanks purified.

Disinfection.—Thirty-one vessels and several lots of clothing and bedding were disinfected, while 205 old beds were burnt and 8 lots of filthy clothing destroyed on account of infection.

Eight smoke nuisances were detected and the offender in each instance was communicated with, while the cleansing of foul fishing-boats and of cattle-ships was performed as usual under the supervision of the Inspectors.

TABLE D.

INSPECTORS' REPORTS—RURAL.

RURAL DISTRICTS		DWELLING-HOUSES AND SCHOOLS			Lodging-houses	Dairies and Milk-shops	Cowsheds	Bakehouses	Slaughter-houses	Ashpits and Privies	Deposits of Refuse and Manure	Water Closets	Defective Yard Paving	HOUSE DRAINAGE				Water Supply	Pigsties	Animals Improperly kept	Offensive Trades	Smoke Nuisances	Other Nuisances	TOTALS	Samples of Water taken for Analysis	Samples of Water condemned as unfit for use	Seizures of Unwholesome Food	Convictions for Exposing or Selling Unwholesome Food	Samples of Food and Drugs taken for Analysis	Samples of Food and Drugs found Adulterated	Loss of Infected Bedding Stoved or Destroyed	Houses Disinfected after Infectious Disease	Schools Disinfected after Infectious Disease	Prosecutions for Exposure of Infected Persons or Things	Convictions for Exposure of Infected Person or Things	
		Fog Conditions	Structural Defects	Over-crowding										Defective Traps	No Disconnection from Sewers	Other Faults																				
AUCKLAND—	Population, 57,380	4	263	4	2	166	3	3	202	42	...	182	5	9	1	21	907	1	1	87	244		
Inspectors of Nuisances—	J. Liddle and J. D. Dowson	3	42	4	...	...	...	...	...	150	141	2	61	19	...	30	2	9	1	...	...	...	464					
	Nuisances abated after Notice	...	7	239	6	...	...	2	...	181	144	3	163	16	...	149	4	9	2	...	...	21	946									
BARNARD CASTLE—	Population, 10,976	2	19	1	1	...	3	...	3	21	42	2	6	4	...	37	10	...	1	9	161	3	1	19	2	
Inspector of Nuisances—	Robert Brown	...	4	...	...	...	...	...	1	...	...	...	...	2	...	12	...	...	...	...	...	...	19
	Nuisances abated after Notice	...	2	23	1	1	...	3	...	2	19	42	2	6	6	...	38	13	...	1	...	9	168													
CHESTER-LE-STREET—	Population, 70,884	40	189	16	2	8	50	4	1	316	44	28	50	13	8	263	52	3	6	90	1183	1	1	
Inspectors of Nuisances—	G. B. Brown, R. J. Swaddle, and J. E. Harrison	1	4	...	...	...	...	...	...	32	...	5	3	...	...	7	6	...	...	...	...	...	58
	Nuisances abated after Notice	...	39	154	16	2	5	43	4	...	331	32	24	46	10	7	247	33	2	6	...	70	1071													
DARLINGTON—	Population, 9,591	...	12	5	2	22	4	...	35	3	4	9	10	1	107	25	17	24	
Inspector of Nuisances—	John Robinson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1	...	...	...										
	Nuisances abated after Notice	...	...	6	5	...	...	...	2	18	4	...	31*	3	4	6	...	...	...	...	...	...	86		
DURHAM—	Population, 30,898	5	42	6	12	...	3	69	1	...	50	10	11	...	2	162	373	3	1	113	113	4	
Inspector of Nuisances—	James Menzies	3	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	
	Nuisances abated after Notice	...	5	42	6	...	...	12	...	3	69	1	...	50	10	...	...	11	...	2	...	162	373									
EASINGTON—	Population, 49,181	37	32	3	3	...	5	...	4	88	17	...	4	11	8	56	2	8	71	349	1	1	44	43		
Inspector of Nuisances—	William Emery	...	10	1	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	16
	Nuisances abated after Notice	...	35	32	4	3	...	5	...	6	88	18	...	4	11	8	56	4	8	...	...	71	353											
HARTLEPOOL—	Population, 2,355	7	...	1	10	7	1	3	9	2	40	3	4	
Inspector of Nuisances—	W. Burton, Junr.	...	...	...	...	...	...	...	...	2	3	...	...	...	...	...	1	...	...	...	...	...	6
	Nuisances abated after Notice	...	...	...	...	...	7	...	1	10	5	1	3	...	...	9	2	...	...	...	...	...	38	
HOUGHTON—	Population, 20,755	7	27	5	12	29	3	3	26	55	2	3	8	32	212	5	5	23	2	
Inspector of Nuisances—	W. Morley	3	10	2	...	...	...	...	...	7	...	...	4	...	...	6	...	...	2	...	...	2	36
	Nuisances abated after Notice	...	7	25	5	...	2	...	...	29	3	3	26	...	...	53	2	3	8	...	...	32	198							
LANCHESTER—	Population, 28,699	...	87	5	31	...	21	262	35	11	167	100	11	...	2	549	1281	3	1	
Inspectors of Nuisances—	J. R. Lupton & G. W. Westgarth	...	12	1	...	...	1	...	...	4	1	...	28	...	...	25	...	...	...	...	...	60	132		
	Nuisances abated after Notice	...	...	75	5	...	31	...	21	256	35	11	158	...	...	100	11	...	2	...	...	549	1284							
SEDGEFIELD—	Population, 26,061	7	...	5	8	...	147	1	...	118	25	1	10	...	63	...	21	9	7	168	590	6	6	4	166	
Inspectors of Nuisances—	James Stones & G. S. Thompson	...	...	...	...	...	...	...	...	18	...	...	3	...	41	...	12	9	7	...	...	...	65
	Nuisances abated after Notice	...	7	...	5	8	...	147	1	...	136	25	1	13	...	104	...	13	9	7	...	168	643													
SOUTH SHIELDS—	Population, 11,541	23	36	3	11	...	5	16	9	5	18	17	8	15	...	3	13	182	31	128	
Inspector of Nuisances—	William Welsh	...	4	28	...	...	2	...	2	5	4	3	9	7	2	6	...	...	...	...	...	...	72					
	Nuisances abated after Notice	...	23	54	2	...	12	...	5	18	9	6	20	21	9	17	...	3	...	...	...	13	212										
STOCKTON—	Population, 13,486	8	26	1	...	1	22	1	2	61	4	6	21	3	...	64	4	2	5	1	...	28	260	1	4	148	4	
Inspector of Nuisances—	J. Franklin	...	...	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	4
	Nuisances abated after Notice	...	8	26	1	...	1	22	1	2	64	4	6	21	3	...	65	4	2	5	1	...	28													
SUNDERLAND—	Population, 28,445	16	14	4	5	78	9	3	3	9	6	23	...	2	6	4	427	5	...	1	4	203	1
Inspector of Nuisances—	Ernest Hitchen	...	10	2	...	...	...	...	...	406	...	...	...	...	...	...	5	...	...	...	...	...	...							
	Nuisances abated after Notice	...	16	23	2	...	4	5	...	431	9	3	3	9	6	23	5	2	6	...	2	29	578													
WEARDALE—	Population, 9,866	2	3	36	8	4	5	92	2	7	18	177	33	
Inspector of Nuisances—	W. Morley Egglestone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nuisances abated after Notice	...	...	...	...	...	...	...	3	30	8	2	4	...	...	90	1	4	...	...	...	16	153	

TABLE A.

TABLE GIVING POPULATION, BIRTH-RATE, DEATH-RATE, &C., WITHIN THE URBAN DISTRICTS OF THE
ADMINISTRATIVE COUNTY OF DURHAM.

URBAN DISTRICTS.	Medical Officer of Health.	Area in Acres.	Population 1906 (Estimated)	Births.	Deaths.	Birth-rate.	Death- rate.	Zymotic death-rate.	Infant Mortality per 1,000 Births.	Phthisis death-rate.	Lung Diseases death- rate.	Number of cases Notified.	Hospital accommo- dation?	Number of cases removed to Hospital.	Percentage of Notified Cases removed to Hospital.	Deaths occurring within District, excluded.	Deaths occurring outside District, included.
BOROUGHES.																	
Darlington ...	J. Lawrence, M.D. ...	3956	49500	1422	791	28·7	15·9	2·2	142	1·03	1·7	232	Yes	176	75·8	20	11
Durham ...	A. M. Vann, M.R.C.S. ...	1065	17000	500	273	29·4	16·0	1·64	154	0·82	2·64	43	Yes	10	23·2	66	6
Hartlepool ...	J. Rawlings, M.R.C.S. ...	735	24000	716	416	29·8	17·3	1·7	146	0·87	2·87	44	Yes	1	2·2	21	37
Jarrow ...	J. M. Nicoll, M.B. ...	1064	34625	1109	624	32·0	18·0	2·3	148	1·58	3·06	116	Yes	35	30·1	4	56
Stockton ...	Thomas Horne, M.D. ...	3631	54168	1785	865	32·9	15·9	1·84	128	1·25	2·3	282	Yes	166	58·8	24	14
URBAN DISTRICTS.																	
Annfield Plain ...	T. Benson, L.R.C.P. ...	3489	14600	533	241	36·5	16·5	2·87	181	0·82	2·3	145	Yes	59	40·6	...	8
Barnard Castle ...	A. H. Sevier, M.B. ...	560	4660	119	71	24·0	15·2	1·5	92	1·28	1·7	5	Yes	3	60·0	8	3
Benfieldside ...	Wm. Allen, M.D. ...	1525	7650	232	119	30·3	15·5	2·2	176	1·04	2·4	68	Yes	16	23·5	...	4
Bishop Auckland ...	T. A. McCullagh, M.R.C.S. ...	691	12863	409	250	31·7	19·4	2·1	149	1·31	2·9	82	Yes	13	15·8	42	6
Blaydon ...	H. Morrison, M.B., B.S., B.Hy. ...	9323	22700	896	407	39·4	17·9	2·3	158	1·2	1·6	225	Yes	74	32·4	...	16
Brandon & Byshottles	H. Smith, M.D. ...	6669	17230	568	302	32·9	17·5	3·7	197	1·10	3·4	125	Yes	37	28·0	...	11
Consett ...	A. D. M. Macintyre, M.B. ...	1005	10601	306	181	28·8	17·0	1·03	156	1·13	4·62	38	Yes	6	15·7	3	14
Crook ...	A. Mackay, M.D. ...	4056	11500	341	193	29·6	16·7	2·2	161	1·82	2·86	72	Yes	35	48·6	...	11
Felling ...	W. E. Peacock, M.D., B.Hy. ...	2684	25600	884	413	34·5	16·1	1·2	138	1·87	2·18	179	Yes	...	Nil	...	29
Hebburn ...	A. M. G. Walker, L.R.C.P. ...	1241	23336	814	402	34·8	17·2	2·3	136	1·19	3·0	239	Yes	136	56·9	1	28
Hetton-le-Hole ...	J. Adamson, M.D. ...	1617	14200	507	248	35·7	17·4	4·3	153	1·26	1·33	159	Yes	48	30·1	...	15
Houghton-le-Spring ...	D. S. Park, F.R.C.S. ...	1551	8950	318	183	35·5	20·4	2·7	172	0·44	3·6	60	Yes	9	15·0	10	4
Leadgate ...	Wm. Allen, M.D. ...	1836	4700	165	77	35·1	16·3	2·3	109	0·85	4·04	30	Yes	...	Nil	...	9
Ryton ...	James W. Smith, M.D. ...	5169	10300	362	130	35·1	12·6	2·2	132	0·87	1·55	128	No*	...	...	...	2
Seaham Harbour ...	L. Gerald Dillon, M.D. ...	1101	11200	438	208	39·1	18·5	2·2	187	1·07	2·2	13	Yes	1	7·6	3	11
Shildon & East Thicky	S. Fielden, M.D. ...	1066	13125	509	273	38·7	20·8	5·1	190	1·43	2·5	232	Yes	91	39·2	...	9
Southwick-on-Wear ...	John J. Carruthers, M.B. ...	856	15148	621	288	40·9	19·0	4·95	186	0·92	3·82	75	Yes	45	60·0	...	34
Spennymoor ...	W. Mussellwhite, M.R.C.S., D.P.H. ...	3388	16814	635	307	37·7	18·2	3·6	155	1·31	2·02	65	Yes	42	64·6	...	16
Stanhope ...	John Gray, M.B. ...	216	1993	43	34	21·5	17·0	0·5	46	1·5	0·5	46	No*	...	...	6	1
Stanley ...	T. Benson, L.R.C.P. ...	3593	18300	758	285	41·4	15·5	1·8	160	0·81	2·95	103	Yes	69	66·9	...	13
Tanfield ...	T. Benson, L.R.C.P. ...	4779	9100	295	124	32·4	13·6	3·0	145	0·33	2·09	154	Yes	85	55·1	9	5
Tow Law ...	J. H. Naismith, M.D. ...	477	4371	128	61	29·2	13·9	1·6	125	1·83	1·6	22	Yes	1	4·5	...	...
Whickham ...	Andrew Smith, M.D. ...	5914	15194	542	246	35·6	16·1	2·82	162	1·11	1·44	79	No*	...	...	...	9
Willington ...	R. E. Brown, L.R.C.P. ...	3793	7938	257	135	32·3	17·0	2·0	186	1·00	2·7	25	Yes	12	48·0	...	6

* These places have hospital accommodation for small-pox cases only.

TABLE A.

TABLE GIVING POPULATION, BIRTH-RATE, DEATH-RATE, &C., WITHIN THE URBAN DISTRICTS OF THE
ADMINISTRATIVE COUNTY OF DURHAM.

URBAN DISTRICTS.	Medical Officer of Health.	Area in Acres.	Population 1906 (Estimated)	Births.	Deaths.	Birth-rate.	Death-rate.	Zymotic death-rate.	Infant Mortality per 1,000 Births.	Phthisis death-rate.	Lung Diseases death-rate.	Number of cases Notified.	Hospital accommodation.	Number of cases removed to Hospital.	Percentage of Notified Cases removed to Hospital.	Deaths occurring within District, excluded.	Deaths occurring outside District, included.
BOROUGHES.																	
Darlington ...	J. Lawrence, M.D. ...	3956	49500	1422	791	28.7	15.9	2.2	142	1.03	1.7	232	Yes	176	75.8	20	11
Durham ...	A. M. Vann, M.R.C.S. ...	1065	17000	500	273	29.4	16.0	1.64	154	0.82	2.64	43	Yes	10	23.2	66	6
Hartlepool ...	J. Rawlings, M.R.C.S. ...	735	24000	716	416	29.8	17.3	1.7	146	0.87	2.87	44	Yes	1	2.2	21	37
Jarrow ...	J. M. Nicoll, M.B. ...	1064	34625	1109	624	32.0	18.0	2.3	148	1.58	3.06	116	Yes	35	30.1	4	56
Stockton ...	Thomas Horne, M.D. ...	3631	54168	1785	865	32.9	15.9	1.84	128	1.25	2.3	282	Yes	166	58.8	24	14
URBAN DISTRICTS.																	
Annfield Plain ...	T. Benson, L.R.C.P. ...	3489	14600	533	241	36.5	16.5	2.87	181	0.82	2.3	145	Yes	59	40.6	...	8
Barnard Castle ...	A. H. Sevier, M.B. ...	560	4660	119	71	24.0	15.2	1.5	92	1.28	1.7	5	Yes	5	60.0	8	3
Benfieldside ...	Wm. Allen, M.D. ...	1525	7650	232	119	30.3	15.5	2.2	176	1.04	2.4	68	Yes	16	23.5	...	4
Bishop Auckland ...	T. A. McCullagh, M.R.C.S. ...	691	12863	409	250	31.7	19.4	2.1	149	1.31	2.9	82	Yes	13	15.8	42	6
Blaydon ...	H. Morrison, M.B., B.S., B.Hy. ...	9323	22700	896	407	39.4	17.9	2.3	158	1.2	1.6	225	Yes	74	32.4	...	16
Brandon & Byshottles ...	H. Smith, M.D. ...	6669	17230	568	302	32.9	17.5	3.7	197	1.10	3.4	125	Yes	37	28.0	...	11
Consett ...	A. D. M. Macintyre, M.B. ...	1005	10601	306	181	28.8	17.0	1.03	156	1.13	4.62	38	Yes	6	15.7	3	14
Crook ...	A. Mackay, M.D. ...	4056	11500	341	193	29.6	16.7	2.2	161	1.82	2.86	72	Yes	35	48.6	...	11
Felling ...	W. E. Peacock, M.D., B.Hy. ...	2684	25600	884	413	34.5	16.1	1.2	138	1.87	2.18	179	Yes	...	Nil	...	29
Hebburn ...	A. M. G. Walker, L.R.C.P. ...	1241	23336	814	402	34.8	17.2	2.3	136	1.19	3.0	239	Yes	136	56.9	1	28
Hetton-le-Hole ...	J. Adamson, M.D. ...	1617	14200	507	248	35.7	17.4	4.3	153	1.26	1.33	159	Yes	48	30.1	...	15
Houghton-le-Spring ...	D. S. Park, F.R.C.S. ...	1551	8950	318	183	35.5	20.4	2.7	172	0.44	3.6	60	Yes	9	15.0	10	4
Leadgate ...	Wm. Allen, M.D. ...	1836	4700	165	77	35.1	16.3	2.3	109	0.85	4.04	30	Yes	...	Nil	...	9
Ryton ...	James W. Smith, M.D. ...	5169	10300	362	130	35.1	12.6	2.2	132	0.87	1.55	128	No*	...	...	...	2
Seaham Harbour ...	L. Gerald Dillon, M.D. ...	1101	11200	438	208	39.1	18.5	2.2	187	1.07	2.2	13	Yes	1	7.6	3	11
Shildon & East Thickley ...	S. Fielden, M.D. ...	1066	13125	509	273	38.7	20.8	5.1	190	1.43	2.5	232	Yes	91	39.2	...	9
Southwick-on-Wear ...	John J. Carruthers, M.B. ...	856	15148	621	288	40.9	19.0	4.95	186	0.92	3.82	75	Yes	45	60.0	...	34
Spennymoor ...	W. Mussellwhite, M.R.C.S., D.P.H. ...	3388	16814	635	307	37.7	18.2	3.6	155	1.31	2.02	65	Yes	42	64.6	...	16
Stanhope ...	John Gray, M.B. ...	216	1993	43	34	21.5	17.0	0.5	46	1.5	0.5	46	No*	...	...	6	1
Stanley ...	T. Benson, L.R.C.P. ...	3593	18300	758	285	41.4	15.5	1.8	160	0.81	2.95	103	Yes	69	66.9	...	13
Tanfield ...	T. Benson, L.R.C.P. ...	4779	9100	295	124	32.4	13.6	3.0	145	0.33	2.09	154	Yes	85	55.1	9	5
Tow Law ...	J. H. Naismith, M.D. ...	477	4371	128	61	29.2	13.9	1.6	125	1.83	1.6	22	Yes	1	4.5	...	...
Whickham ...	Andrew Smith, M.D. ...	5914	15194	542	246	35.6	16.1	2.82	162	1.11	1.44	79	No*	...	...	...	9
Willington ...	R. E. Brown, L.R.C.P. ...	3793	7938	257	135	32.3	17.0	2.0	186	1.00	2.7	25	Yes	12	48.0	...	6

* These places have hospital accommodation for small-pox cases only.

ADMINISTRATIVE COUNTY OF DURHAM.

DEATHS AT CERTAIN AGES AND FROM CERTAIN SPECIFIED CAUSES.

URBAN DISTRICTS	DEATHS AT SUBJOINED AGES.							DEATHS FROM SUBJOINED CAUSES.																													
	At all Ages.	Under Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Membranous Croup.	Croup.	Typhus.	Enteric.	Other Cont'd	Epidemic Influenza.	Diarrhoea.	Euteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism.	Carbuncles of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.
Darlington ...	780	203	85	20	46	237	189	...	10	2	5	6	4	...	9	...	5	73	19	...	2	5	51	17	37	54	28	2	29	13	3	15	3	81	25	2	280
Durham ...	273	77	20	6	10	89	71	...	...	...	3	5	...	...	...	...	...	20	1	...	...	1	14	8	13	28	17	...	1	5	...	11	1	27	7	2	109
Hartlepool ...	416	105	70	10	18	132	81	...	9	...	4	1	2	...	3	...	4	21	4	...	1	11	21	24	18	44	24	1	1	6	...	18	3	41	19	3	133
Jarrow ...	624	165	106	38	23	190	102	...	21	1	15	8	...	...	6	...	3	31	2	1	...	6	55	28	32	38	68	2	8	5	3	43	7	52	25	4	160
Stockton ...	875	228	93	43	42	288	181	...	1	1	13	10	...	...	7	...	9	71	3	1	4	4	69	35	50	52	39	...	...	12	...	30	2	42	43	2	375
Amfield Plain ...	241	97	35	10	12	53	34	...	5	2	6	3	...	...	3	...	1	23	4	...	...	...	12	13	8	26	8	1	1	...	...	12	3	9	4	...	97
Barnard Castle ...	79	11	3	...	3	21	41	...	...	...	2	...	...	...	1	...	...	4	...	...	...	...	6	3	3	4	3	1	...	...	...	...	...	17	...	...	35
Benfieldside ...	119	41	10	6	7	37	18	...	...	...	2	1	...	...	2	...	2	12	...	...	...	...	8	8	3	8	11	...	2	...	...	7	...	10	3	...	40
Bishop Auckland ...	244	61	22	7	14	91	49	...	1	...	2	3	...	...	7	...	...	15	...	...	...	...	17	18	5	25	12	1	...	2	1	7	2	23	2	3	98
Blaydon ...	407	142	54	15	27	101	68	...	2	4	10	4	1	...	3	...	3	30	6	1	...	10	28	21	13	17	18	2	15	4	9	20	1	28	6	5	146
Brandon & Byshottles ...	302	112	40	19	16	71	44	...	15	1	10	6	1	...	8	...	...	24	3	...	...	...	19	15	8	20	39	...	...	1	...	23	2	19	10	...	78
Consett ...	184	48	15	9	13	72	27	...	...	...	...	...	...	...	...	...	...	11	2	...	...	1	12	10	9	13	35	1	...	4	...	10	7	13	6	2	48
Crook ..	193	55	23	7	12	47	49	...	...	...	...	3	1	...	4	...	3	18	3	1	...	...	21	12	8	14	19	...	...	...	...	4	...	11	8	1	62
Felling ..	413	122	45	18	41	121	66	...	2	3	2	10	...	...	...	...	1	15	4	2	2	1	48	45	14	16	36	4	10	1	4	45	6	39	14	3	86
Hebburn ...	403	111	52	18	27	141	54	...	2	2	9	2	...	...	2	...	2	38	2	...	3	4	28	12	9	24	45	1	...	3	...	8	4	50	16	...	137
Hetton-le-Hole ...	248	78	30	11	13	57	59	...	16	3	2	8	...	...	4	...	1	28	1	...	1	...	18	11	13	9	10	...	5	...	...	27	3	16	5	1	66
Houghton-le-Spring ...	183	55	32	8	7	41	40	...	5	2	...	2	...	...	1	...	1	15	5	...	...	...	4	4	5	10	23	...	...	...	1	5	2	29	2	...	67
Leadgate ...	77	18	11	6	3	19	20	...	2	3	...	1	...	...	...	...	...	5	7	...	...	...	4	1	6	13	6	...	2	...	...	6	...	1	4	...	16
Ryton ...	130	48	12	3	6	34	27	...	...	2	1	3	...	...	1	...	...	16	1	...	...	...	9	9	11	10	6	...	1	1	...	9	1	5	3	1	40
Seaham Harbour ...	208	82	32	7	5	51	31	...	...	...	...	...	...	...	...	...	...	25	...	...	...	2	12	26	5	12	13	...	...	3	3	19	2	19	6	1	60
Shildon & East Thicky ...	273	97	28	17	14	68	49	...	...	1	3	3	...	...	19	...	...	42	2	...	...	2	19	11	5	24	8	2	...	2	1	13	1	22	2	2	89
Southwick-on-Wear ...	288	116	49	13	8	67	35	...	1	...	12	...	3	...	7	...	2	52	2	...	...	...	14	8	5	36	22	...	...	2	...	16	3	11	7	...	85
Spennymoor ...	307	99	52	12	16	75	53	...	...	...	7	2	2	...	2	...	1	48	3	...	...	1	22	9	10	19	15	...	1	3	1	16	3	12	11	3	116
Stanhope ...	33	2	3	...	2	13	13	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1	3	1	2	...	...	1	...	...	...	1	1	7	1	1	12
Stanley ...	285	122	38	8	14	67	36	...	...	2	13	1	...	...	3	...	4	15	4	...	...	1	15	13	13	41	12	1	2	2	...	29	1	14	7	...	92
Tanfield ...	128	43	20	13	7	30	15	...	1	4	...	10	1	...	2	...	...	10	...	...	...	...	3	12	1	13	5	1	2	...	...	5	2	7	9	...	40
Tow Law ...	61	16	5	2	3	18	15	...	...	...	1	2	...	...	...	...	1	4	2	...	...	...	8	2	1	4	3	...	2	...	...	7	...	9	1	...	14
Whickham ...	246	88	27	15	11	60	45	...	3	3	9	2	1	...	2	...	1	23	...	1	...	...	17	12	7	17	5	...	4	1	...	16	...	20	8	3	91
Willington ...	135	48	12	4	7	40	24	...	...	...	1	...	...	...	1	...	3	14	1	2	...	1	8	3	5	15	7	...	...	2	1	12	3	7	1	...	48
TOTAL	8155	2490	1024	345	429	2331	1530	...	96	36	132	97	16	...	97	...	47	703	82	9	13	51	565	391	319	606	537	21	86	72	27	434	63	641	255	39	2720

The difference between the total deaths in some districts in this Table and the figures given in Table A. is due to the incompleteness of the statistics in the Annual Reports of the district Medical Officers of Health.

TABLE B.

TABLE GIVING POPULATION, BIRTH-RATE, DEATH-RATE, &C., WITHIN THE RURAL DISTRICTS OF THE ADMINISTRATIVE COUNTY OF DURHAM.

RURAL DISTRICTS.	Medical Officer of Health.	Area in Acres.	Population (Estimated)	Births.	Deaths.	Birth-rate.	Death-rate.	Zymotic death-rate.	Infant Mortality per 1,000 Births.	Phthisis death-rate.	Lung Diseases death-rate.	Number of cases Notified.	Hospital accommodation?	Number of cases removed to Hospital.	Percentage of Notified Cases removed to Hospital.	Deaths occurring within District, excluded.	Deaths occurring outside District, included.
Auckland ...	J. G. Willis, L.R.C.P., D.P.H.	57334	57380	1932	986	33·6	17·1	2·99	173	0·59	2·54	340	Yes	90	26·4	10	37
Barnard Castle ...	James C. Neligan, L.R.C.S.	79961	10976	298	187	27·0	17·0	1·0	117	1·09	1·09	61	Yes	1	1·6	1	5
Chester-le-Street ...	J. Taylor, M.D., D.P.H.	34620	70884	2589	1176	36·5	16·4	2·4	163	1·14	2·28	484	Yes	53	10·9	7	14
Darlington ...	Robert H. Meikle, M.B.	42019	9591	281	170	29·1	17·7	1·15	128	1·25	1·35	30	Yes†	6	20·0	...	11
Durham (Eastern Division)...	A. T. Harrison, L.S.A.	15265	17725	611	327	34·4	18·4	2·4	170	0·62	2·14	120	Yes	45	37·5	9	11
Durham (Western Division)	E. Jepson, M.D.	15788	13173	403	180	30·6	13·6	1·4	131	0·98	1·2	72	Yes	17	23·6	4	11
Easington ...	J. Arthur, L.R.C.P., D.P.H.	37018	49181	1808	929	36·7	18·8	3·2	174	0·89	2·3	533	Yes	20	3·7	11	27
Hartlepool ...	T. G. Ainsley, M.D.	19690	2355	64	31	27·1	13·1	1·2	109	0·42	2·1	11	Yes†	1	9·0	125	...
Houghton (Northern Division)	D. S. Park, F.R.C.S.	8398	15750	605	243	38·4	15·4	1·8	145	0·95	1·84	80	Yes	1	1·2	...	17
Houghton (Southern Division)	J. R. Sutherland, L.R.C.P.	4794	5005	177	90	35·3	17·9	2·3	152	0·99	3·19	29	Yes	3	10·3	7	7
Lanchester (Lanchester Division)	J. Wilson, M.D.	29949	20000	791	317	39·5	15·8	2·1	166	0·90	2·90	61	Yes	41	67·2	35	6
Lanchester (Medomsley Division)	W. T. Bolton, L.R.C.P.	21193	8699	242	111	27·8	12·7	1·6	169	0·68	2·3	53	Yes	3	5·6	...	1
Sedgefield ...	Frederick Hulton, M.D.	45006	26061	907	510	34·8	19·5	3·9	198	1·07	3·03	276	Yes	75	27·2	164	5
South Shields ...	W. Armstrong, L.R.C.P.	12073	11541	353	145	30·5	12·5	1·4	101	0·95	0·78	160	Yes	48	30·0	301	8
Stockton ...	J. W. Blandford, L.R.C.P.	34539	18486	486	264	26·2	14·2	2·5	158	0·54	1·94	149	Yes†	28	18·7	4	13
Sunderland...	Robert Stobo, M.B., B.Hy.	6980	28445	945	434	33·2	15·2	2·9	177	0·80	2·35	214	Yes	23	10·7	...	18
Weardale (Derwent Division)	C. J. Connon, M.B.	13144	465	14	2	30·1	4·3	Nil	Nil	Nil	Nil	...	No*	...	...	...	...
Weardale (Stanhope Division)	James Bannerman, M.B.	24864	2615	59	34	22·5	13·0	0·38	84	1·14	0·38	31		...	...	...	2
Weardale (St. John's Division)	John Easton, L.R.C.P.	36096	3186	67	53	21·0	16·6	Nil	74	0·94	0·94	11		...	...	...	2
Weardale (Wolsingham Div.)	R. H. O. Garbutt, L.R.C.P.	21552	3600	77	63	21·3	17·5	1·6	103	1·11	2·5	101		...	...	...	2

* This district has hospital accommodation for small-pox cases only.
adjointing urban district.

† In these districts arrangements have been made by which fever patients may be removed to the hospital in the

TABLE B.

ADMINISTRATIVE COUNTY OF DURHAM.

DEATHS AT CERTAIN AGES AND FROM CERTAIN SPECIFIED CAUSES.

RURAL DISTRICTS	DEATHS AT SUBJOINED AGES.							DEATHS FROM SUBJOINED CAUSES.																															
	At all Ages.	Under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upward.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Membranous Croup.	Croup.	Typhus.	Enteric.	Other Contag.	Epidemic Influenza.	Dysentery.	Enteritis.	Phagocytic Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer.	Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism.	Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.
Auckland ...	959	336	100	32	56	263	172	...	4	3	20	8	5	...	17	...	8	115	9	4	2	3	34	30	37	100	43	3	13	5	1	43	13	62	31	3	343		
Barnard Castle ...	187	35	17	7	9	58	61	...	...	...	1	4	2	...	...	...	6	6	...	...	1	1	12	5	8	9	2	1	...	3	...	5	3	25	2	2	89
Chester-le-Street ...	1183	422	139	64	57	297	204	...	9	4	23	29	4	...	6	...	4	115	6	3	2	15	81	43	41	47	101	...	14	7	1	83	11	76	44	4	410		
Darlington ...	159	36	7	5	15	29	67	...	...	...	1	1	1	...	2	...	...	7	...	...	...	1	10	2	9	5	8	...	1	1	2	4	...	14	4	2	84
Durham (Eastern Division)...	327	104	44	14	18	83	64	...	...	1	7	5	...	...	9	...	2	21	10	2	...	...	11	8	12	22	16	...	...	2	...	19	9	27	10	2	132
Durham (Western Division)	173	53	18	6	10	54	32	...	1	2	5	...	...	...	...	...	1	11	2	...	...	...	13	15	10	11	5	...	4	1	...	12	5	16	9	2	48
Easington ...	929	315	129	51	39	239	156	...	5	9	20	12	1	...	12	1	5	101	10	1	1	...	44	29	19	64	47	3	7	5	1	64	31	47	78	6	306		
Hartlepool ...	31	8	1	2	...	9	11	...	...	1	...	...	...	...	...	...	2	2	...	...	...	...	1	...	2	4	1	...	...	...	...	1	1	2	1	1	12
Houghton (Northern Division)	243	88	32	8	11	56	48	...	3	1	1	1	...	...	5	...	1	18	2	...	...	...	15	11	7	4	25	...	...	2	...	19	4	19	15	3	87
Houghton (Southern Division)	90	27	14	6	3	19	21	...	7	...	...	1	...	...	...	...	1	3	1	...	...	...	5	1	1	10	5	1	...	1	...	4	...	13	5	...	31
Lanchester (Lanchester Division)	303	132	30	11	13	68	49	...	2	3	3	1	...	...	2	...	...	33	4	...	...	...	18	16	8	29	29	...	...	1	...	16	1	13	6	...	118
Lanchester (Medonsley Division)	111	41	11	6	5	34	14	...	...	3	...	1	...	...	...	...	...	10	...	...	...	...	6	4	1	6	14	...	...	...	...	4	...	10	...	...	52
Sedgefield ...	510	180	69	27	26	138	70	...	5	6	10	6	5	...	21	...	...	55	8	...	...	1	28	23	11	26	51	2	5	3	...	40	6	37	18	1	142
South Shields ...	145	36	10	3	12	54	30	...	...	...	...	5	...	...	3	...	1	9	...	3	1	...	11	8	10	5	4	...	1	3	...	10	1	18	8	4	40
Stockton ...	268	77	34	8	13	72	64	...	...	1	7	3	...	...	6	...	1	31	...	2	...	2	10	8	13	17	19	...	...	3	...	6	...	29	12	2	96
Sunderland...	434	168	65	17	22	90	72	...	1	1	12	1	2	...	6	...	1	64	1	...	...	2	23	23	15	36	28	3	11	1	...	17	1	42	15	...	128
Weardale (Derwent Division)	2	1	1	2	
Weardale (Stanhope Division)	34	5	2	...	1	12	14	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	3	...	5	...	1	...	...	...	...	3	1	9	1	...	9
Weardale (St. John's Division)	53	5	1	...	2	21	24	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3	1	1	...	1	2	2	1	...	2	1	11	2	...	25
Weardale (Wolsingham Div.)	61	8	8	2	4	23	16	...	...	3	...	...	...	...	1	...	1	2	...	...	...	...	4	3	3	4	5	...	1	...	...	4	1	9	2	...	18
TOTAL ...	6202	2076	731	269	316	1620	1190	...	37	38	110	78	20	...	90	1	36	604	53	15	7	25	332	230	213	399	405	15	59	39	5	356	89	479	263	32	2172		

The difference between the total deaths in some districts in this Table and the figures given in Table B. is due to the incompleteness of the statistics in the Annual Reports of the district Medical Officers of Health.

TABLE C.

Tabulated Statement of the chief Vital Statistics of the Administrative County of Durham for the year 1906, compiled from the monthly returns supplied to the County Medical Officer by the Registrars.

1906.

	Population (Estimated 1906).	Births.	Deaths.	Zymotic Deaths.	Per 1,000 Population.				Deaths under 1 year per 1,000 Births.	Percentage of Uncertified Deaths to Total Deaths	
					Birth-rate.	Death-rate.	Zymotic Death-rate.	Phthisis Death-rate.			Bronchitis, Pneumonia & Pleurisy Death-rate.
Boroughs ..	175,492	5,543	3,002	349	31·5	17·1	1·98	1·18	2·75	140	2·5
Other Urban Districts	298,030	10,706	5,203	763	35·9	17·4	2·56	1·19	2·77	160	3·8
Rural Districts ..	348,638	12,758	6,254	862	36·5	17·9	2·47	0·97	2·42	163	2·7
Administrative County	822,160	29,007	14,459	1,974	35·2	17·5	2·40	1·09	2·62	157	3·1
England and Wales...	34,547,016	934,391	530,715	60,063	27·0	15·4	1·73	1·15	2·28	133	1·5

